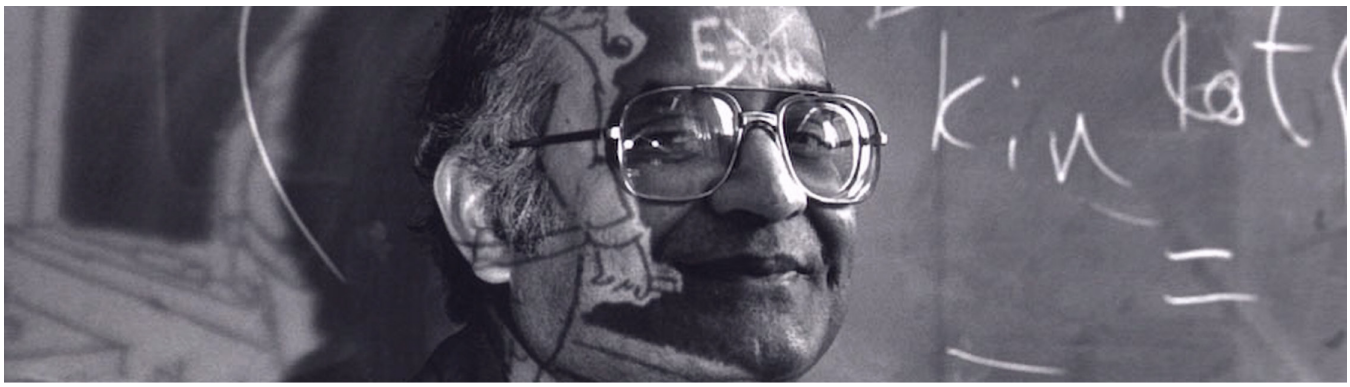
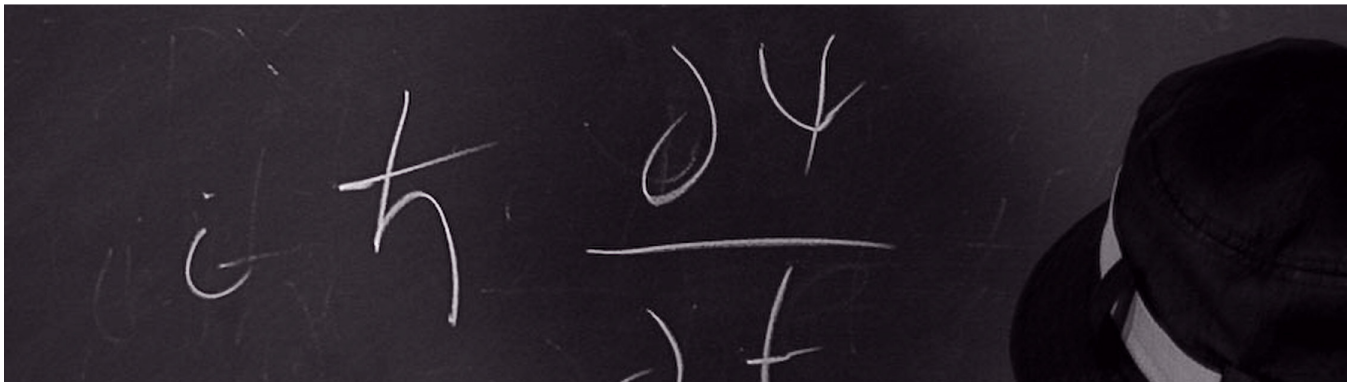
the Quantum Activist Workbook

By Amit Goswami, Ph.D.





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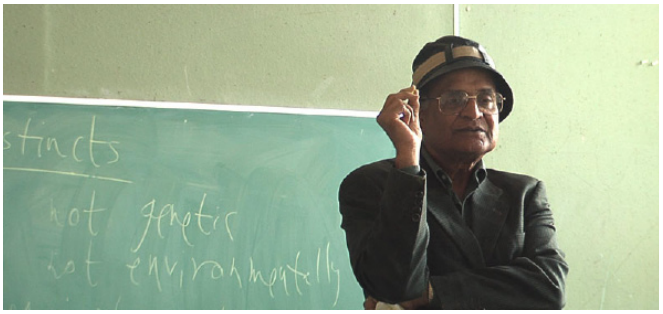
By Amit Goswami, Ph.D.
Illustrated by Ri Stewart



This workbook is written to assist enthusiastic viewers of the documentary film **The Quantum Activist** to go deep into the exploration of quantum activism. It is dedicated to all present and future quantum activists—a special breed of people who will transform themselves and the world using quantum principles with skill. For best results, the workbook should be studied in a group with a group leader who will lead the discussion. Do study sessions for at least a few weeks. We have given references for further reading and group discussion and some practices to be done both individually and in groups.

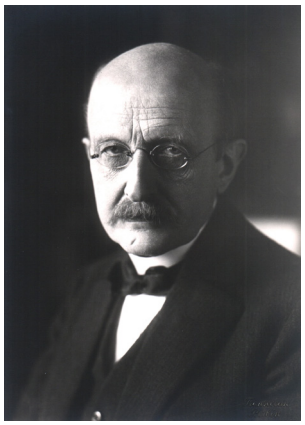
Quantum Physics and the Quantum Principles

What is the vehicle the activist rides? It better be quantum physics that equips the activist with causal power—downward causation. In Newtonian physics, objects are determined things made of matter; their movements are determined by material interactions among the base level objects called elementary particles, which make the world bottom up—upward causation. But in quantum physics, objects are not determined things—they are quantum possibilities for consciousness to choose from. This conscious choice is downward causation.

Okay, these are important sound bites; there is much to explore in the quest for understanding. So our first workbook questions are:

What is a quantum?
What is a quantum possibility?
What is consciousness?

What is a quantum?



A quantum is a discreet quantity first used by the physicist **Max Planck** to denote the idea that energy exchange between bodies can take place only in terms of discrete quanta—one quantum, two quanta etc., but never half a quantum. A photon is a quantum of light. You can think of an elementary particle as a quantum of matter.

In our everyday usage, money is quantized. We cannot exchange money in a lesser denomination than a cent in this country. But do realize that this quantization of money is arbitrary; it is not a physical law. Banks do exchange money in denominations of fractions of a cent!

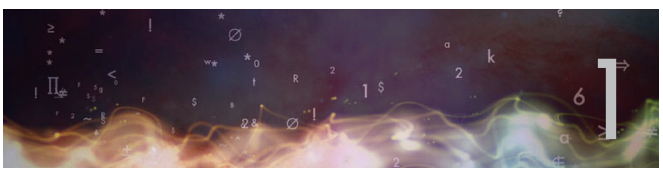
The word quantum packs much more power since it began to be used to denote a discontinuous movement. The physicist Niels Bohr theorized that when an electron jumps from one atomic orbit to another, it does not go through the intervening space. The electron's movement is discontinuous; Bohr called it a quantum leap.

What is a quantum possibility?

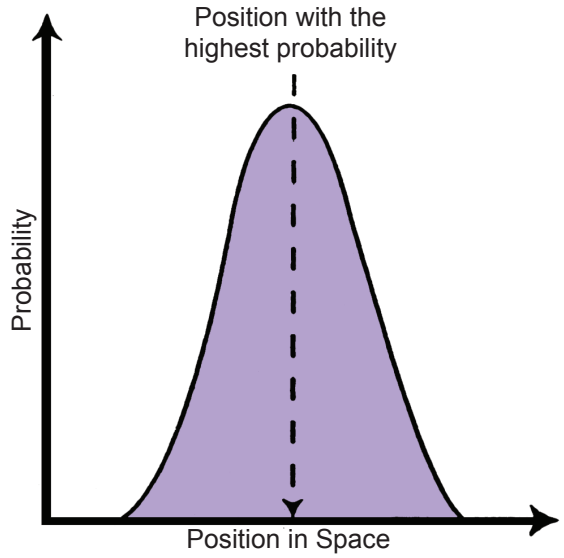
A quantum possibility is shorthand for a quantum wave of possibility. To understand the idea, consider how an electron behaves when released in the middle of a room.

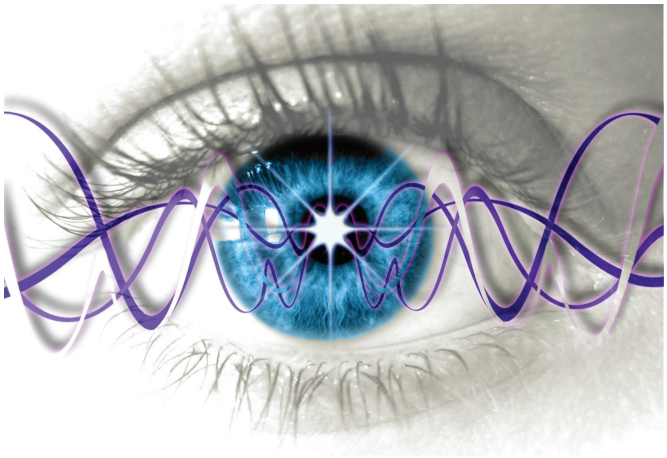
When you throw a pebble in a pool of water, water waves spread out from where the pebble lands, right? The electron spreads out in a

similar fashion but three dimensionally; this is what quantum mathematics says. However, suppose we put a three dimensional grid of Geiger counters (you have seen them; they go tick-tick-tick when electrons fall on them) in the room. Will all the Geiger counters go ticking? No. In a given experiment only one of the Geiger counters will tick. In another identical experiment, another Geiger counter may tick, and so forth. So is the electron smeared all over the room? Yes, as the mathematics say, but to make sense of it we must agree that the electron is in many places at the same time only in possibility. Hence the name possibility wave.



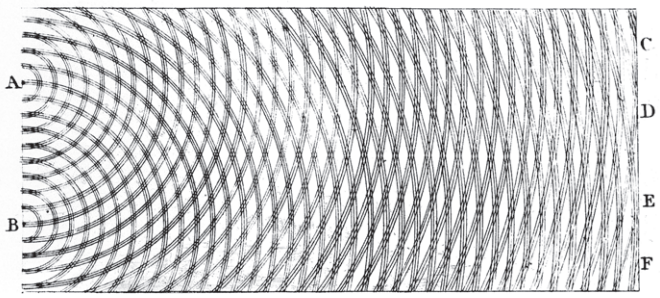
Corollaries For Discussion:





Probability:

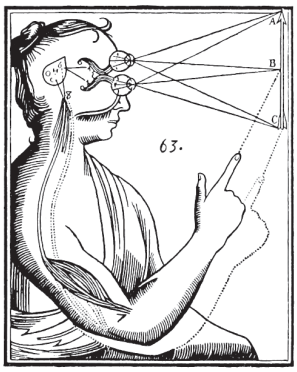
Possibilities come with probability. In the experiment above, if you plot all the data obtained from different measurements, you will get a probability bell curve. The predictive power of quantum physics comes from these bell curves that we can calculate from quantum physics in answer to the question of where will the electron be on the average for a large number of measurements. From the curve above, we say the probability is this much that the electron will be over there in the room. In physics and chemistry we are always handling jillions of quantum objects, so this probability prediction is all we need. However, for a single object and/or a single event, probabilities don't help. Quantum mathematics has no answer. So we posit: consciousness chooses-- this is to explain the observer effect which is fact.



Observer effect:

When an observer looks, the possibility wave changes into actuality. Colloquially we say, the wave changes into a particle. Note: the physicist's jargon for this change is collapse. *But don't be confused.*

What is consciousness?



This is the quintessential question for discussion. The observer effect leads to the conclusion that the observer's looking must have some interaction involving nonmatter because material interactions, according to the mathematician John von Neumann's famous theorem, can only convert possibility waves into other possibility waves; never into actualities. So this nonmatter is the observer's consciousness, but what is it? If you say it is that which looks, what we conventionally call subject, we get a paradox. Obviously, the subject does not exist without the brain, but without collapse, we only have a possible brain.

Brain requires collapse, collapse requires brain. There is a circularity here, a paradox of logic. This is known as the quantum measurement paradox.

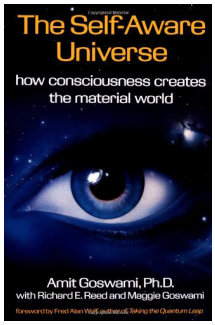
Quantum physics, in its considerations of the quantum measurement paradox, tells us what consciousness must be in order to avoid all paradoxes of thinking about it.

1 *Consciousness is the ground of all being; matter consists of possibilities of consciousness itself. Since consciousness is choosing from itself, this assertion avoids the paradox of dualism—how does consciousness interact with matter without a signal? Quantum physics gives the radical answer: there is no signal. This signalless communication is called quantum nonlocality.*

2 *Another tendency is to think that we choose with our individual consciousness. This also gives a paradox: who gets to choose in the case of a dichotomous traffic light discussed in the movie. The solution leads to the same idea as above: original consciousness, the source of our downward causation, is nonlocal. This source we may call God, following older traditions; but it is objective and we can equally call it quantum consciousness.*

3 *There is no mathematics for collapse; no continuous algorithm can be given for it. Collapse is discontinuous. What is discontinuity? When an electron jumps from one atomic orbit to another, it does so without going through the intermediate space. The electron's quantum leap is an example of discontinuity.*

4 *Quantum measurement in the brain is tangled hierarchical, meaning that there is a circular relationship among the brain's components. This gives us self-reference. In the process of quantum measurement involving the tangled-hierarchical brain, consciousness splits itself into a subject (that experiences) and an object (that is experienced). In the process, consciousness identifies with the brain.*



In the film this is discussed in sections, but not all at the same time. Putting it all together should help the discussion about the nature of consciousness. Use my book *The Self-Aware Universe* if you want to go deep into quantum paradoxes and their resolution based on the philosophy of the primacy of consciousness. Downward causation along with its three signatures: **nonlocality**, **discontinuity**, and **tangled hierarchy**, are the principles of quantum physics which, when we learn to apply them in our life properly, can transform us. These are the tools with which the quantum activist works.

Later we will make discussion topics out of each of these signatures of downward causation in the following order:

How do we explore nonlocality?
How do we engage with discontinuity?
What is tangled hierarchy?
How do we engage with it?

?

(However, this has to wait until we have properly defined the arena of the application of these principles.)

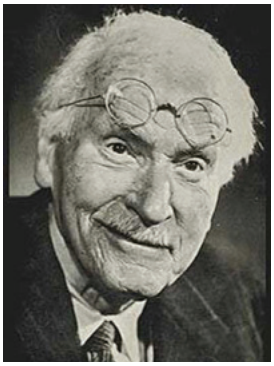
Quantum physics is the physics of possibilities that are the product of upward causation. We choose the actual events of our experience from these possibilities which is downward causation. And we don't choose in our individual conditioned ego; an idea which was much emphasized in the movie.

Note also that our choice is very limited in the physical arena, but quite unlimited in what is called the subtle arena in spiritual traditions. To this we now turn...

Gross and Subtle Bodies

Realizing that matter exists as possibilities within consciousness allows us to solve the so-called mind-body or internal/external duality problem. How?

Spiritual traditions talk about five bodies of consciousness: the physical, the vital, the mental, the supramental and the bliss body. The supramental body (consisting of archetypes such as love, beauty, truth, justice and goodness) is embedded in the wholeness of consciousness which is seen as the ground of being.



In modern times, the psychologist **Carl Jung** codified four categories of personality traits: sensing-type, feeling-type, thinking-type, and the intuitive-type. Putting the two systems together, within the ground of consciousness, yields us four different worlds of possibilities: material possibilities that we sense when we collapse them; vital possibilities that we feel; mental possibilities that we think; and supramental possibilities that we intuit. We have an existence and a body in each of these worlds. The bodies do not directly interact, rather consciousness nonlocally mediates their interaction. In this way, mind-body dualism is avoided, creating a breakthrough in philosophical thinking. Now let's consider some discussion topics.

What does the vital body do that the physical cannot do? What does the mind do that the brain cannot do?

Of the four bodies, the physical body is public and experienced as external; it is called gross. The other three, vital-mental-supramental, are private and internal and are called subtle. This raises the question:

What is the explanation of the external/internal dichotomy?

I have mentioned the concept of the ego before. With subtle bodies into the picture we can enquire about the ego thus:

What is ego?
Where does individuality come from?

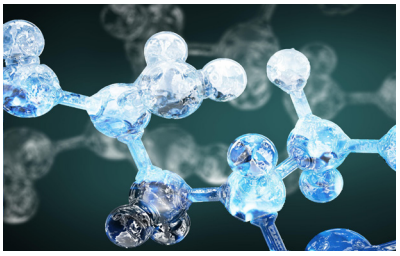
What does the vital body do that the physical cannot do?

Any sensitive person knows that when we feel, we feel energies; traditionally this energy is called by names like prana (in India), chi (in China), or just simply vital energy (in the West). The concept of vital energy was discarded in biology and medicine because of the implied dualism (if we are feeling the energies of the movement of the vital body, how does the vital body interact with the physical?), and because of the advent of molecular biology when it seemed that we could understand everything about the body through the chemistry of DNA, etc. But DNA alone cannot explain everything about our body; some aspects of healing for example. As every physician and patient knows, often healing requires vitality or vital energy. Vital energy is not the product of body chemistry. Chemistry is local, but the feelings of vital energy, the feeling of being alive, is quite nonlocal. But then, where does vital energy come from if not from the movement of a nonmaterial vital body?

Molecules obey physical laws, but they know nothing about the contexts of living that occupy us much of the time; such

as maintenance and survival, let alone love or jealousy. The vital body belongs to a separate subtle world and contains the blueprints of form-making; forms that carry out the fundamental vital functions--the contexts of living. In other words, the vital body provides the body plans of the organs of the physical body that play out the vital functions in space-time.

The point is this: physical objects obey causal laws and that's all we need to know in order



to analyze their behavior; we can call their behavior law-like. Biological systems obey the laws of physics, but they also perform certain purposive functions: self-reproduction, survival, maintenance of integrity of self *vis-à-vis* the environment, love, self-expression, evolution, and self-knowledge. Some of these functions you will recognize as instincts that we share with animals. For example, fear is a feeling that is connected with our survival instinct, but can you imagine a bundle of molecules being afraid? Molecular behavior can be explained completely within physical laws, without giving them the attribute of fear. Fear is vital body movement that we feel, and concomitantly, a vital program to help consciousness guide the cells of a physical organ to carry out appropriate vital functions in response to a fear-producing stimulus.

The behavior of biological systems is interesting because these programs that run their functions are not related to the physical causal laws that govern the movement of their molecular

substratum. Let's call this behavior, program-like.

Rupert Sheldrake's great contribution to biology (*read his book A New Science of Life*) is to recognize the source of this program-like behavior. Sheldrake introduced nonlocal and nonphysical morphogenetic fields into biology to explain the programs that run biological morphogenesis--physical form-making for biological beings.

This is to say that we all are born as one-celled embryos which then divide making identical replicas having identical DNA and genes. But cellular functioning depends on the proteins the cells make. Potentially, all cells can make all the proteins, but they don't. Instead cells become differentiated; depending on which organ the cell belongs to, only certain genes are activated to make certain proteins that have to do with the functioning of the particular organ. So there must be programs activating the appropriate genes.

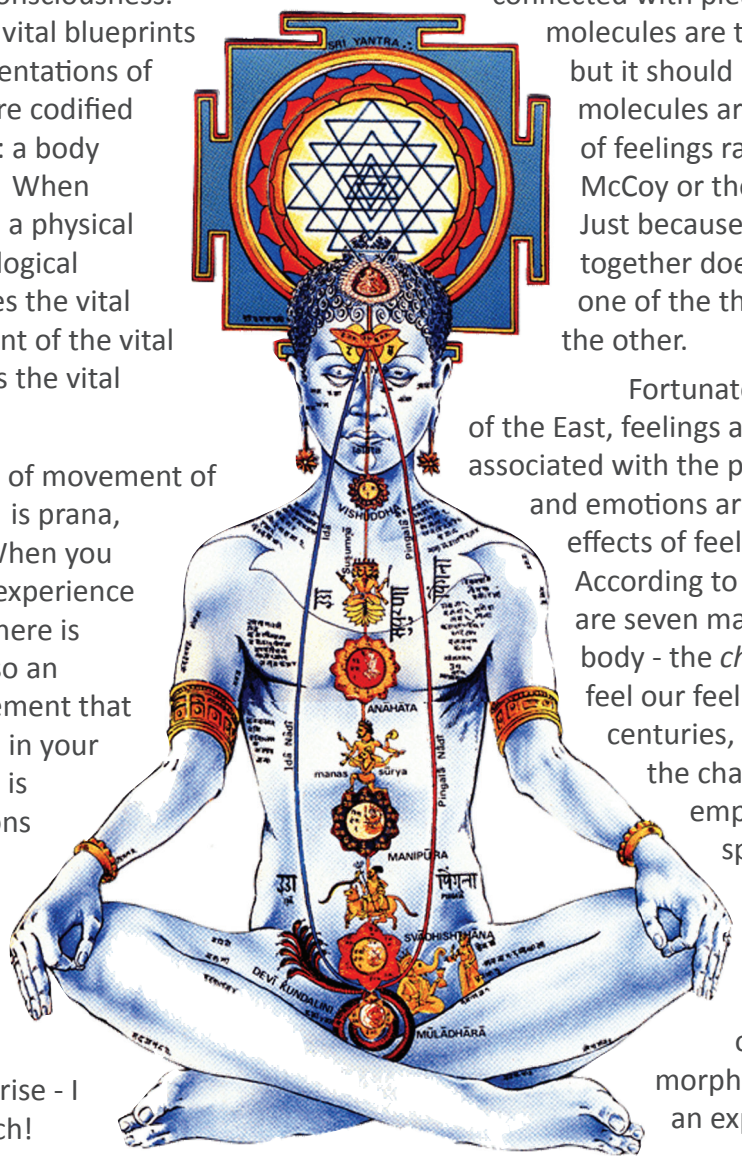
How does the cell know where in the body it is or to which organ it belongs? The answer smacks of nonlocality. Sheldrake boldly suggested that the programs of differentiation of organ functioning require nonlocal (and hence nonphysical) morphogenetic fields.
So again, the vital body is the reservoir of

morphogenetic fields - the blueprints of form making. As we discussed in the film, the job of the physical body is to make representations of the vital body's morphogenetic fields. The job of the representations is to perform functions of living, maintenance, reproduction, etc.; the job of the vital blueprints is to help program the physical for carrying out the biological functions.

It makes sense. If living forms are run by software programs, then the programs must have started from some blueprints somewhere by some programmer. Because blueprints are now built into the hardware as form, and the program-like behavior of biological form is automatic, it is easy to forget the origin of the program-like behavior and the programmer.

So the vital body is needed. It has the original blueprints, the morphogenetic fields that the physical body's organs represent. Once the representations are made, the blueprints help run the programs that carry out the functions of their organ representations. The representation-maker, or the programmer, is consciousness. Consciousness uses the vital blueprints to make physical representations of its vital functions that are codified in its supramental body: a body of laws and archetypes. When consciousness collapses a physical organ to carry out a biological function, it also collapses the vital blueprint - the movement of the vital blueprint that we feel as the vital energy of a feeling.

This quantum mode of movement of the vital body blueprint is prana, or chi, or vital energy. When you are having the internal experience of having an emotion, there is thought, but there is also an extra, subtle, vital movement that consciousness collapses in your internal awareness; this is manifest prana. Emotions involve vital body movements in addition to the movement of the mental. Just watch yourself the next time you are angry: angry thoughts arise - I will show him. But watch!



There is something else, something also subtle, that you also feel internally. That's the prana, the vital energy.

The morphogenetic fields give us a profound explanation of feeling: what we feel, how we feel, and where we feel. To be sure this is experiential, but a more objective evidence of the vital body arises from its importance in alternative medicine. Sometimes, it is hypothesized that feeling and emotions are the territory of the neurochemistry of the limbic brain. To this end, the researcher **Candace Pert's** (*Molecules of Emotion*) experiments on the "molecules of emotion" are important. An example is the endorphins connected with pleasure. Certainly the molecules are telling us something, but it should be obvious that molecules are material correlates of feelings rather than the real McCoy or the cause of the feelings. Just because two things occur together does not guarantee that one of the things is the cause of the other.

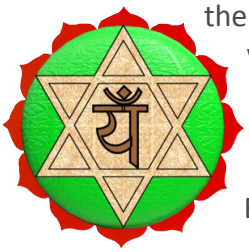
Fortunately, in the psychology of the East, feelings are recognized to be associated with the physiological organs; and emotions are clearly seen as effects of feelings on the mind. According to the Easterners there are seven major centers of our body - the *chakras* - wherein we feel our feelings. But through the centuries, although the idea of the chakras has found much empirical validation from spiritual disciplines, not much theoretical understanding has come. Now, finally, with the idea of Sheldrake's morphogenetic field, an explanation of the

chakras, where feelings originate and why, can be given. You can discover for yourself what a little quantum thinking enables us to scientifically theorize. First, look at the major chakras and notice that each of them is located near major organs for our body's biological functioning. Second, make a note of the feeling you experience at each of these chakras; feel free to use your memory of past feelings. Third, realize that feelings are your experiences of the vital energy--the movements of your morphogenetic fields; and that the same morphogenetic fields are correlated with the organ of which they are the blueprint/source. Now we are able to arrive at

the inevitable conclusion: *those chakras are the points of our physical body where consciousness simultaneously collapses the movements of important morphogenetic fields along with the organs of our body that represent these morphogenetic fields.*

Now was that so hard?

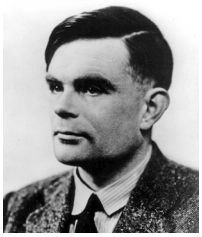
The materialists have it all reversed. They think that we feel emotions in the brain, that is, emotions are a brain epiphenomena. And then it comes to the body through the nervous system and the so-called molecules of emotion. But actually, it is the other way around. We feel feelings at the chakras, but then the control goes to the mid-brain for integration and eventually, the neocortex gets into the game when the mind gives meaning to the feelings.



The movie makes a big deal of the heart chakra. Good. But in your discussion sessions you should make a big deal with all the chakras. Use my book *The Quantum Doctor* and also Christine Page's book *Frontiers of Health* to guide you.

What does the mind do that the brain cannot?

The neocortical part of the brain involved with mental phenomena such as thought is a computer of sorts. So materialists ask, can we build a computer that has a mind? If we can, that would prove that our mind belongs to the brain; that it is an epiphenomenon of the brain.

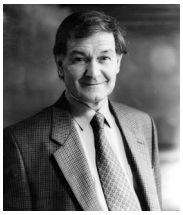


Thus originated an entire field of study called artificial intelligence in the nineteen fifties. The mathematician **Alan Turing** claimed that if a computer can simulate a conversation intelligent enough to fool a human being to assume that he or she is talking to another human being, then we cannot deny the computer's mental intelligence.

So have computers passed the Turing test? A computer has defeated one of the world's greatest chess players in a game of chess; so maybe the computer is even more intelligent than the human being? Not only do we seem to have built a computer with a mind, we seem to

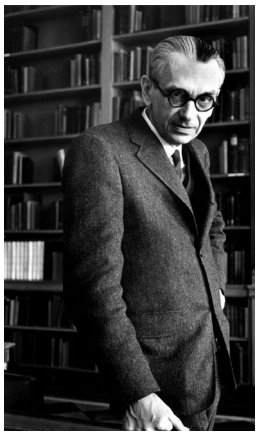
have built a computer with a mind better able to reason than one of our best.

But then came the philosopher **John Searle** onto the scene. In a book aptly named *The Rediscovery of the Mind,* he pointed out that a computer, being a symbol-processing machine, cannot process meaning. You can try. You can reserve some of the symbols to denote meaning--call them meaning symbols. But then realize that you need other symbols to tell you the meaning of the meaning symbols, and so on, ad infinitum.



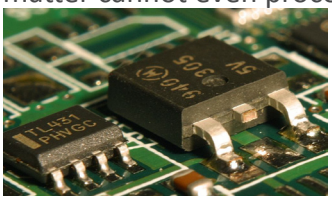
To process meaning, you need an infinite number of symbols and machines to process them. An impossible task!

The physicist/mathematician **Roger Penrose** gave a mathematical proof that computers cannot process meaning. Calling his book by the provocative name *The Emperor's New Mind*, Penrose warned us that all the hoopla notwithstanding, the computer's proposed new mind is as false as the emperor's new clothes in that famous fable.



For his proof, Penrose used the important Goedel's theorem which states that an elaborate mathematical system is either inconsistent or incomplete—a theorem which is fundamental in recognizing the cogency of tangled hierarchy.

Materialist biologists claim that meaning may very well be an evolutionarily adaptive quality of matter. Searle and Penrose's work convincingly exposes the vacuous nature of such a claim. If matter cannot even process meaning, how can matter ever present a meaning processing capacity for nature to select; survival benefit or not?

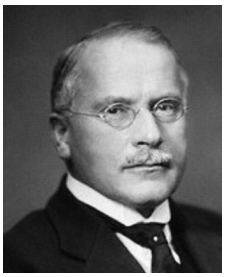


So the lesson from all this is that although the mind is clearly associated with the brain, it does not belong to the brain, it is not a brain epiphenomenon. Instead, it is independent of the brain—it is the meaning giver of our experiences. Computers cannot process meaning, but they can make (software) representations of the meaning we give them. Similarly, consciousness uses the brain to make representations of mental meaning.

You can still argue that this is all theory. Where is the experimental data? What we do have here is a negative experimental test: if this theory is correct, then it is impossible to build a computer that can process meaning. It is a fact that so far no computer scientist has been able to build a meaning-processing computer to refute our theory. In other words, the theory is passing the test.

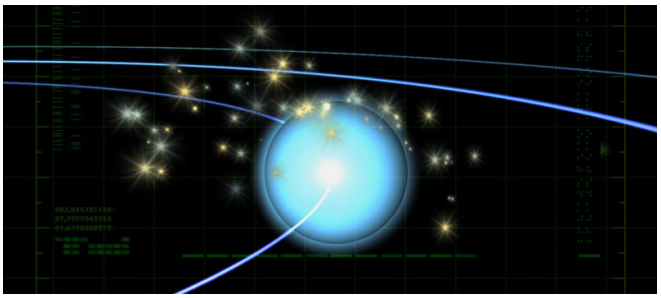
The nature of brain memory, judging from its replay, is a dead giveaway for mind being a dual entity different from the brain. The neurophysiologist **Wilder Penfield** first observed while working with epileptic patients and stimulating their memory "engrams" with electrodes that such stimulation produced an entire stream of mental memory. Mental meaning is represented in the brain, but only as triggers for the correlated mind to play its correlated meaning. This also explains why memory is associational.

Actually, there is much positive evidence in favor of the causal practicality of meaning processing which is the job of the mind. The movie discussed one such practical matter already: **creativity**. I suggest you make one discussion session around creativity. Read John Briggs' book *Fire in the Crucible* and also chapter 17 of *God is not Dead* that will give you additional anchors of discussion.



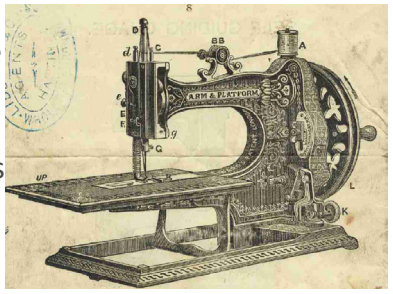
I will mention three more examples of the causal practicality of meaning processing. First synchronicity, a concept introduced by **Carl Jung.** Synchronicity refers two correlated events, one in the physical world and the other in the mental, correlated through the meaning that arises in the mind. You can see an example of **quantum nonlocality** here. Synchronistic events are useful guideposts for the creative journey. As you can see from the movie, I myself have used their guidance many times.

Second, **dreams**. The neurophysiological explanation of dreams - that dreams are the result of putting perceptual images to brain white noise - is only the beginning of an explanation. The complete explanation is that mind puts meaning into the "Rorschach" of brain white noise, sometimes creating quite striking audiovisuals. So dreams are the ongoing story of our meaning life, as they help us to see how meaning unfolds in our lives. *(God is not Dead, chapter 14.)* This explains why dream analysis in the Jungian style - where you assume that every dream character in your dream has the meaning



that you give to that dream image - is so useful in psychotherapy. A dream can heal you when you work with it and appreciate its meaning.

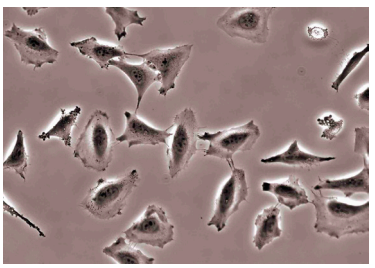
There are creative dreams that have "disturbed the universe," such as **Niels Bohr's** dream of the discrete orbits of the atomic electrons. The inventor of the sewing machine Elias Howe got his crucial idea from a dream in which he was captured by savages and was told by their leader to finish his machine or else. Somehow Howe noticed that his captors were carrying spears which had holes near their sharp end-points.



Upon waking Howe at once realized that the key to his machine is to use a needle with a hole near the point.

The pharmacologist **Otto Loewi's** discovery of the experimental demonstration of the chemical mediation of nerve impulses should be dear to the heart of every neuroscientist. Loewi got the idea through a dream, no, two dreams actually. The first time he dreamed the idea and wrote it down in the middle of the night, but he could not decipher his own handwriting in the morning. Fortunately, his intention brought him the dream the next night as well. This time Loewi was careful in writing down the details very legibly.

A third example is the important field of **mind-body disease.** Wrongness in meaning processing can give us serious disease. *(The Quantum Doctor.)* I will give you one example of this--how the suppression of emotion at the heart chakra can give us cancer.



Cancers can result from immune system malfunction.

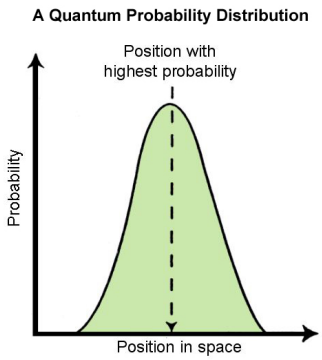
There are always malfunctioning cells in our body that divide uncontrollably. With a healthy immune system this is not a problem since the thymus gland makes sure that these abnormal cells are regularly killed off.

In the West, people, especially males, are culturally conditioned to suppress emotions. For example, a man may find that it is disadvantageous for him to have his heart chakra open in the presence of a woman that he likes because an open heart makes him vulnerable. She may ask and he may consent to give her a BMW, who knows? Naturally he picks up the habit of suppressing vital energy at the heart causing an energy block. A prolonged block like this leads to the suppression of immune system activity of the thymus that can lead to the suppression of the body's ability to kill off abnormally growing cells that then become cancerous. Indeed, certain types of cancer have been connected with emotionally suppressive people suppressing the energy of love at the heart chakra. Importantly, when the emotions clear up via a quantum leap in mental meaning, unblocking vital energy at the appropriate chakra, there is now very good evidence that patients undergo spontaneous healing--taking a quantum leap from disease to healing using their creative choice.

So my point. If unbalanced processing of meaning can produce a serious disease like cancer and additionally, right meaning restores health, we better take mind and meaning seriously. They are not mere epiphenomena!

What is the explanation of the internal/external dichotomy?

What is the reason for the distinction of an inner and outer aspect to our awareness? The materialists have no possible explanation for the inner experience, so they just wish it away as subjective epiphenomena needing no explanation. But idealist philosophers who value the inner experience don't do very well either on this question. They posit consciousness as the ground of all being and make the inner nature of the psyche a matter of metaphysical truth. But in idealist philosophy all things are inside consciousness: including matter and psyche. So why do we experience one outside, the other as inside?



The quantum nature of the stuff of the psyche, the mind, the vital body, the supramental, gives the answer why these experiences are inner experiences. Quantum objects are waves of possibility, expanding in potentia whenever we are not collapsing them. When we collapse a mental meaning wave, a particular meaning is chosen, and a thought is born. But as soon as I am not thinking, there goes the wave of possibility expanding again. So between my thought and your thought, the wave of meaning expands so much, becoming so many possibilities, that it is highly improbable that you will collapse the same thought as I. *(An exception occurs when we are correlated, as in mental telepathy. Another exception sometimes occurs when two people of similar conditioning converse.)* So, generally speaking, thoughts are experienced as private, and therefore, as inner.

Now compare the situation with material objects. There is a fundamental difference between the subtle worlds and the gross material world, which is why such names are given. The subtle worlds--the vital, the mental, and the supramental--are all one thing; they are indivisible oceans of possibility. But as Descartes recognized, matter is *res extensa,* body with extension. Matter can be subdivided. In the material realm, micro-matter makes up conglomerates of macro-matter.

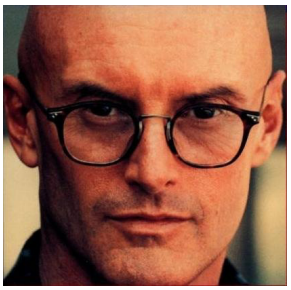
So although quantum physics rules both domains of matter, micro and macro, there is a spectacular difference that arises when we consider macro-matter as massive conglomerates of micro. A massive macrobody's wave of possibility becomes very sluggish.
Suppose your friend and you are looking at a chair.

If you collapse the chair's possibility wave in order to look at it, fine. You have done it and you see the chair over there by the window. Soon after your friend also looks. In between your collapse and your friend's collapse the chair's possibility wave expands no doubt, but very little. First of all, the molecules of the chair are bound together with cohesive forces; so the chairness of the chair remains even as possibility. Only the center of mass of the chair can move due to the expansion of the chair's wave of possibility, but the movement is minuscule. As a result, when your friend collapses it, the new position of the chair is only different from where you observed it by a minuscule amount, imperceptible without the help of a laser instrument. Naturally, you both think you are looking at the chair in the same place; you have a shared experience, so the chair must be outside of both of you.

The macro material world is built in this way. And this is good, because otherwise we could not use them as reference points. If your physical body were always depicting the uncertainties of quantum movement, who would you be?

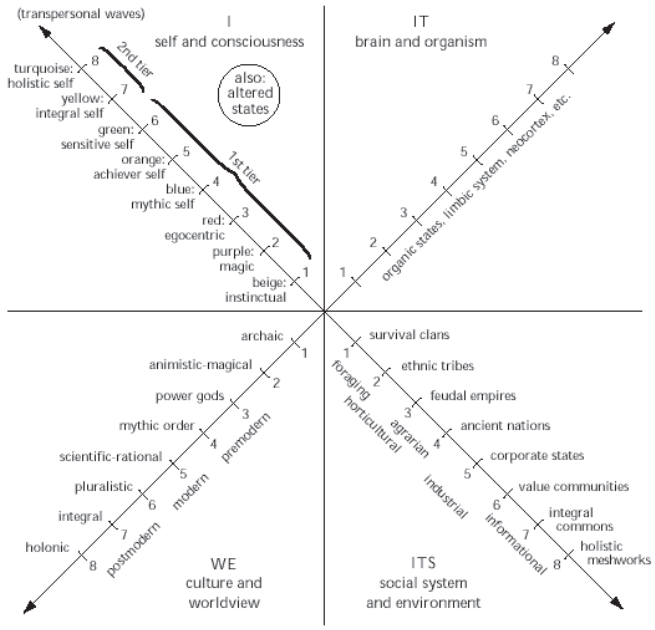
Also, if the quantum nature of macro-matter were not subdued, how could we use matter for making representations of the subtle? Imagine writing your thoughts on a white board with a marker only to see the marks move away in subsequent collapse events. What would that do to our representation making capacity?

This quantum resolution of the external/internal dichotomy of our experience is a philosophical coup de grace. To appreciate this, consider that ever since Rene Descartes recast reality as an internal/external mind/matter dualism, Western philosophy has been saddled with this. Even great thinkers, such as Immanuel Kant and Ken Wilber alike, seem unable to jump out of this philosophical box.



Ken Wilber *(read his book, Integral Psychology)* has a lot of influence today about shaping the future of consciousness studies. So let's examine his work in some detail. Wilber's philosophical career began well. He endorsed the perennial philosophy (which is another name for the metaphysics of the primacy of consciousness) and very capably translated and clarified its message toward developing a transpersonal psychology for our times. So impressive was he in his earlier expositions that he was declared as the Einstein of modern psychology by some people.

And yet, when Wilber focused the direction of his research on developing an integral psychology, he took the Cartesian interiority/exteriority dichotomy as his starting point. The materialist approach to psychology--cognitive psychology, behaviorism, and neurophysiology--is an objective approach, a study of consciousness as third person--it and its. The transpersonal approach based on perennial philosophy is an approach directed toward finding the nature of the self/I; and as such it is a study of consciousness primarily in the first person and secondarily in the second person when nonlocality of consciousness is recognized. The objective study of "it and its" is done in our exterior consciousness. Consciousness in the first (I) and second person (I/you and we) can be studied only from the interior vantage point. Hence Wilber's famous four quadrant model of consciousness studies:



But there is no integration as of yet. There is mind and body in our study of consciousness from the vantage point of interiority; but body is now relegated to an epiphenomenon of the mind. Likewise, there is Mind and Body from the vantage point of exteriority as well. But now Mind is looked upon as an epiphenomenon of the Body. It does not seem that either vantage point can ever do equal justice to both mind and body.

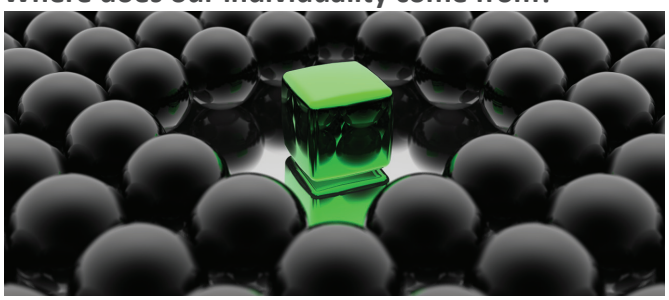
What then is Wilber's solution? Wilber says that in order to resolve the mind-body dualism we have to develop our consciousness to grow the capacity to experience nonordinary states, *"you must further develop your own consciousness if you want to know its full dimensions."* Only from the nonrational vantage point of the nonordinary "higher" states of consciousness, is the mind-body dualism resolvable, according to Wilber. Wilber flatly declares that there is no rational solution to the mind-body problem.

I mention Wilber's theory only to make the point of how extraordinary it is that the quantum approach does give a rational resolution of the mind-body problem and the interiority/exteriority dichotomy which perpetuates it. Quantum physics allows us to see that, like the Newtonian fixity of the macrophysical reality and the behavioral nature of the conditioned ego, the interiority/exteriority dichotomy is also nothing but a camouflage. As we penetrate the camouflage, we extend science to our subjective, interior experiences. It is about time.

Where does our ego-individuality come from?
How does the cosmic, nonlocal quantum consciousness, God identify with an individual; become individualized? How does continuity obscure the discontinuity? The answer is primarily via observership and secondarily via conditioning. Before observership comes about, quantum consciousness is one and undivided from its possibilities--physical, mental, vital, and supramental. Observership implies a subject-object split; a split between the self and the world. However, before conditioning, the world experiencing subject or self is unitive and cosmic. When God-consciousness chooses its response to the stimulus from

the quantum possibilities offered to it by the stimulus with total creative freedom (subject only to the constraint of the laws of quantum dynamics of the situation, God is objective and is lawful; it is Her laws after all!), the result is what can be called the primary experience of the stimulus in its suchness (as experienced in a superconscious state which Easterners call *samadhi*). As consciousness identifies with the superconscious state, we call it the quantum self (holy spirit in Christianity). With additional experiences of the same stimulus that leads to learning, the responses get prejudiced in favor of past responses to the stimulus. This is what psychologists call conditioning. Identifying with the conditioned pattern of stimulus responses (habits of character) and the history of the memories of past responses gives the subject/self an apparent local individuality which we call the ego (for further details, read my book, Physics of the Soul). When we operate from the ego, our individual patterns of conditioning, our experiences, being predictable, acquire an apparent causal continuity. We feel separate from our unitive whole quantum self and from God.

Where does our individuality come from?



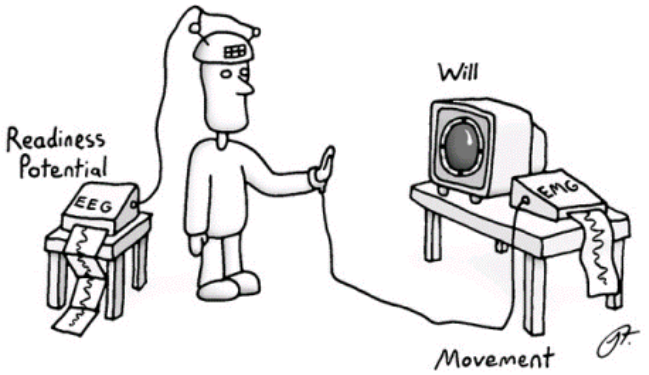
The physical individuality is structural and obvious. Vital and mental individuality are subtle; they are functional. We all are potentially capable of accessing all the possibilities of the vital and the mental worlds; but as adults we generally don't do it. Instead we identify with a conditioned set of patterns with which we explore the vital and the mental worlds. These individual functional patterns we call our vital and mental body respectively. The conscious identity we experience with our physical, vital, and mental bodies, and the content of their correlated memories is our ego.

The sum and substance of conditioning is that as consciousness progressively identifies with the ego, there is a corresponding loss of freedom. In what is referred to as the limit of infinite conditioning, the loss of freedom may be a hundred percent. At that stage, the only choice left to us, figuratively speaking is like the choice between flavors of ice cream: chocolate or vanilla; a choice between conditioned alternatives. Not that we want to undermine the value of even this much freedom, but obviously, this is not real freedom. It is in principle achievable even by machines such as a neural network. In this conditioned limit behaviorism holds. In the so-called "correspondence principle limit" of the new science: that is to say in the limit of infinite conditioning, the new science predicts the same results as the old science.

But never fear. We never go that far down the pike of conditioning; we don't live that long. Even in our ego, we retain

some freedom. A most important aspect of the freedom that we retain is the freedom to say "no" to conditioning, and this allows us to be creative every once in a while.

There is experimental data in favor of what I am saying. In the sixties, neurophysiologists discovered the so-called **P300** which shows that *(called an events- have related –potential)* that suggested our conditioned nature. Suppose as a demonstration of your free will, you declare your freedom to raise your right arm and proceed to do



it. Guess what? By looking at machinery attached to your brain, a neurophysiologist can easily predict from the appearance of the P300 wave that you are going to raise your arm. Actions of "free will" that can be predicted are not examples of real freedom.

So is the behaviorist right that there is no free will for the ego? Maybe the mystics are right who say that the only free will is God's will to which we must surrender. But then a paradox: how do we surrender to God's will if we are not free to surrender?

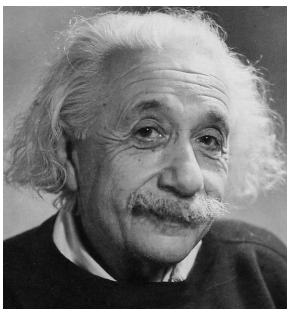
But again, never fear. The neurophysiologist **Benjamin Libet** did an experiment that rescues a modicum of free will even for the ego. Libet asked his subjects to negate raising their arms as soon as they became aware of their use of free willing to raise their arms by taking advantage of a 200 millisecond gap between the two events. Neurophysiologists could still predict from the P300 the raising of the arm, but more often than not, Libet's subjects were able to resist their will and not raise their arms demonstrating that they retained their free will to say "no" to the conditioned action of raising their arms.

The Quantum Tools of Transformation

Our objective should be clear. We want to access nonlocal consciousness so we can use downward causation to create our reality always in consonance with the evolutionary movement of consciousness. Quantum activists have three tools available to them: nonlocality, discontinuity, and tangled hierarchy. Skillful use of these tools will take you to the desired end which is supramental intelligence—the capacity to access the supramental, as needed, for the solution of your problems.

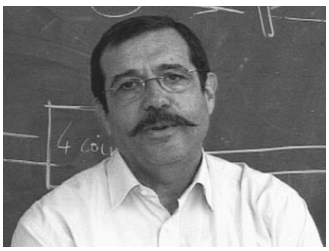
How do we explore nonlocality?

Let's start with defining locality. Locality is the idea that all influences that cause movement or change travel through space and time continuously, a little bit at a time. So influences that are in the local vicinity have more effect; the influences further away are far less effective. An example derives from how a wave affects an object. When the object is close, the power of the wave reaching out to the object is strong. But at twice the distance, this power attenuates to only one fourth of the previous strength. Furthermore, **Einstein** proved with his relativity theory (and experimenters have verified Einstein's relativity many times over) that influences can propagate in space and time only subject to a speed limit, the speed of light (300,000 km/second). This, however, is also part of the locality principle.



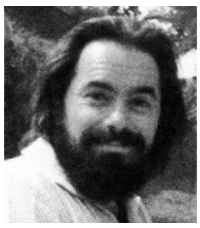
In quantum physics, the locality principle

which does not hold giving way to nonlocality. Ironically, Einstein himself whose relativity theory was instrumental for establishing the locality principle, along with two other collaborators, **Nathan Rosen** and **Boris Podolsky,** was the first to see the viability of quantum nonlocality . If two quantum objects interact they become so correlated that their mutual influence persists unabated even at a distance, even when they are not interacting via any local force or exchanging any local signals. Later the physicists John Bell and David Bohm developed ideas that made quantum nonlocality experimentally verifiable. Experimental verification of the idea came via the work of the physicist **Alain Aspect** and his collaborators. They watched two photons emitted with quantum correlation from the same calcium atom continuing their correlated dance even after they were separated by distance, and without any signals exchanged between them.



As discussed in the movie, quantum nonlocality has now been directly verified even for human subjects by showing the correlation between brains, leaving no doubt that quantum physics does apply to us and to the macroworld in general under suitable subtle situations.

Nonlocal connections between humans have been known to exist for millennia in such phenomena as mental telepathy. *God is not Dead (chapter 16)* has a review of some of the mental telepathy experiments. Of course, what is special about the new experiments pioneered by **Jacobo Grinberg** is that they are objective and the roles of meditation and intention are clearly seen in them.



Our consciousness ordinarily works with local stimuli, either from the physical environment or from memory; this is the ego mode. In nonlocal communication we transcend the local ego-mind and momentarily use quantum consciousness. Like creatives who (somewhat unconsciously) use momentary forays into quantum consciousness to process new ideas in their professional field, psychics are people who have the access (again somewhat unconsciously) to quantum consciousness in the area of nonlocal communication.

Quantum physics makes the idea of nonlocal communication of information scientifically feasible. Here are a couple of exercises for you to access quantum consciousness, through an experience of quantum nonlocality. This should open your door further for processing downward causation.

One word of caution. Nonlocal communication is the easiest entry point to nonlocal consciousness. It can be used for accessing God, but it can and often is used in the pursuit of power. The sage **Patanjali** warned us all about this danger and a quantum activist is well advised not to fall prey to this tendency.

Excercises

1 **Distant viewing exercise**

Sit with a friend who has in hand an object in a closed box about whose contents you know nothing but your friend does know. Meditate together with the intention of direct communication for about twenty minutes and maintain this meditative intention during the rest of the exercise. You will try to "see" nonlocally without visual signals what's inside that box, while your friend will visualize the thing inside the box. For best results, write down and draw pictures of what appears to "pop" into the mind distinct from stream-of-consciousness thinking. After the exercise, compare your drawing etc. with the physical object. Then switch roles.

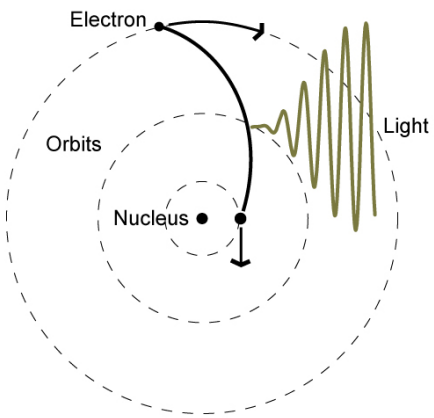
2 Meditate with a group of meditators

To start get a reference point by meditating about ten minutes by yourself. Then meditate another ten minutes with a group of other meditators. Notice if the quality of meditation is deeper. Repeat for a few days. If group meditation is consistently better for you than meditation individually, then you are getting the hang of quantum nonlocality. Your supramental intelligence is being enhanced. Incidentally, this nonlocal enhancement of meditative quality is what Jesus meant when he said, "When two or more gather in my name, there I am in the midst of them."

3 Quantum brainstorming or dialoging

You may know about brainstorming or dialoging. The idea is to communicate freely with another, listening without judgment and with attention and respect. In quantum dialoging, you also include speaking from a silence to give nonlocality a chance to work its magic.

Take any topic, for example transformation, and have a quantum dialog with a friend. Write down the result. If the dialoging begins to produce new insights of discontinuous thought, it is a telltale sign of the growth of supramental intelligence.



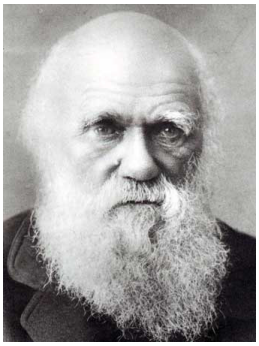
A quantum leap as envisioned by Niels Bohr. According to Bohr, when electrons jump from one orbit to another, they never go through the intervening space`

How do we engage with discontinuity?

Discontinuities appear in our own creative processes, in biological macro-evolution, and in spontaneous healing episodes that many people undergo. These are all examples of discontinuous quantum events of collapse.

The film had a lot of discussion on the creative process and the quantum leaps involved in the creative process. We can compare the four stages of the creative process—**preparation**, **incubation**, **insight**, and **manifestation** with the scientific method—make a theory (that solves the problem), deduce an experimentally verifiable consequence of the theory, do the experiment and see if the theory works, if the theory does not work go back to the beginning. What is the difference between the two methods? In the scientific method, we can only try one theoretical idea at a time. But in the creative process, when we incubate, many theories can be simultaneously processed as quantum possibilities... so the creative process is much more efficient.

Creative Evolution (chapters 10 and 11) examines biological creativity in evolution; and conclude that the Darwinian mechanism of chance variations in the genes and natural selection based on survival necessity (shortened as chance and necessity) is too inefficient for macroevolution or evolution on a large scale (for example, evolution involving the appearance of a new trait). In brief, this is because nature as conceived in Darwinism can only select one gene mutation at a time: keep it or leave it. It's hard to imagine how thousands upon thousands of gene mutations necessary for a new organ could ever accumulate in this way. Next conclude that biological creativity can appropriately speed up the process because mutations can accumulate in possibility and be processed as



possibilities. The objective advantage of biological creativity is that the data, such as the fossil gaps, is in support of it.

The Quantum Doctor (chapter 16) has another objective example of discontinuity in the creative process, and see why spontaneous healing episodes are examples of quantum healing, a term first used by **Deepak Chopra** (read his book *Quantum Healing*).

The Creative Moment

And as for your lack of personal experience of discontinuous movement of consciousness, relax. They are not as foreign to you as you think. Have you seen the cartoon The Physics Teacher by Sidney Harris? Einstein stands before a black board trying to discover his law $E = mc^2$. He writes $E = ma^2$ and crosses it out. Next he tries $E = mb^2$ and crosses it out. The caption says, the creative moment. So why do you laugh when you see the cartoon? Because intuitively you know that creative discoveries do not involve step-by-step continuity; instead they are the products of discontinuous insight.

The truth is, when you were a child you used to take such discontinuous quantum leaps of thought quite regularly. That's how we learn things that require new contexts of thinking, such as, a new mathematical concept, reading meaning in a story, abstract thinking for the first time, etc.

And if childhood is too remote, think of those moments when you intuit something. What happens? What is intuition? Why do you call certain thoughts intuition? Because there is no rational continuous explanation for such thoughts; there is no contextual precedent for such thoughts. An intuition is your glimpse at a future quantum leap.

In this day and age you may also take a different track. You may go see the movie *The Secret* and get inspired by its message that you can manifest anything. When you fail a few times, you may remember the lesson of quantum physics: *the intention for manifestation must resonate with nonlocal consciousness.* With this revelation in mind we move to the following exercises.

Excercise

Creative and Transformative Intention

Sit comfortably and quietly. An intention must start with the ego, that's where you are. So at the first stage, intend for yourself. Be forceful. Try to manifest your intention. At the second stage, recognize that you can have what you want in two ways: having it all by yourself, or having it because everybody (which includes you) gets it. So now intend for everyone; for the greater good. Begin by expanding your consciousness to include all people in your vicinity; then include in your consciousness everyone in your city, in your state, in your country, and finally in the whole world.

In the third stage, your intention must become a prayer: if my intention resonates with the intended movement of the whole, then let it come to fruition.

At the fourth stage, the prayer must pass into silence, it must become a meditation. Stay in meditation for a few minutes.

Of course even with this exercise, initially, you may try to manifest physical things: a helicopter would be nice! You want to fly. If you keep at it, there may be a phase when you see a lot of flying dreams and the experience is frustrating. In the dream you fly so well; and yet always when you wake you find that you are grounded, you can't fly, your helicopter has not manifested. Then one day when you wake up a different idea occurs to you. Suppose the dream is trying to attract your attention to the fact that you can fly in your dream, although you can't in physical reality. In other words, you can be creative in the subtle, and that is where you work on your powers of creativity and manifestation.

Transformation involves the same kind of discontinuous quantum leap in the movement of consciousness as acts of creativity in science, math, art, or music. I call the latter acts of outer creativity and the former acts of inner creativity.

So one more exploratory quantum tool for developing supramental intelligence is discontinuous quantum leaps. Let's consider a few practices for quantum leaping.

1 First Practice: Exploring gaps in the stream of conscious thinking

Sit quietly and comfortably with back straight. Close your eyes and watch your thoughts as they come into awareness and fade away from awareness. Try not to be partial to any particular thought; regard all of them as the same passing show. The analogy of watching clouds in the mind's sky may help.

When you start this meditation, you will notice how one thought quickly replaces another. Your mind is racing. After a while, especially with practice, you will see your mind slowing down and successive thoughts will seem to appear with distinct gaps between them. Don't get too excited. You have not discovered "no thought" or emptiness of mind because even in the gap your subject-object split of awareness remains. However, this is a good place to be because quantum leaping is much facilitated from such a place.

2 Second practice: Exploring sudden involuntary phenomena

When you are in the midst of seemingly sudden involuntary phenomena such as a sneeze or an orgasm, be intensely aware. Practice to see if you can stop yourself right before sneezing or right before an orgasm. Again, a sneeze or even a sexual orgasm is not a quantum leap or a true discontinuity. But being aware in such moments is a proven recipe for the facilitation of a quantum leap.

3 Third practice: Exploring the gap between sleep and wakefulness

Watch carefully and see if you can remain aware right down to the junction of wakefulness and sleep. From this awareness quantum leaping is a distinct possibility. You may have heard how many creative people get their idea while in a reverie; this is precisely your objective.

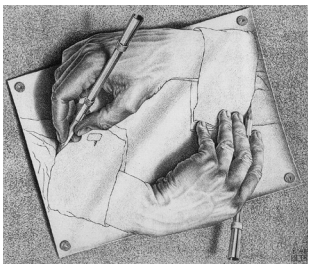
If you want more practices like this with the same objective of quantum leaping, read the appendix of Paul Reps' book on Zen, *Zen Flesh, Zen Bones* ; they are called the 112 meZditation techniques of Siva.

What is tangled hierarchy? How do we engage with it?

Simple hierarchy you know: when you are the head honcho to some underling, you are the causal level of a simple hierarchy. Recall from the movie the story of the Hollywood woman

who meets a long-lost friend. "Let's have some coffee and catch up." They go to a coffee house and the woman starts talking. After about half an hour,she becomes aware, "Oh I am talking about myself all this time. Let's talk about you. What do you think of me?" This is the tendency in our ego level of being - being at the causal level of a simple hierarchy.

A relationship is tangled hierarchical when causality fluctuates back and forth between the levels ad infinitum. And what's more, the causal efficacy of the levels of a tangled hierarchy is only an apparent one. The real causal efficacy lies in a domain transcending both.



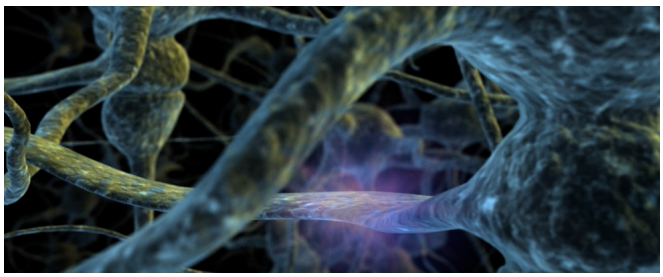
As an example, look at the Escher picture of Drawing Hands. It appears that the left hand is drawing the right, and the right is drawing the left, but in fact Escher is drawing them both from a transcendent level.

Tangled hierarchy between the components of the brain gives us self-reference. It gives us the subject-object split--and our ability to experience the world of objects as a subject. To see this examine the sentence:

I am a liar.

Notice the tangled hierarchy arising from the infinite oscillation, if I am a liar I am telling the truth, if I am telling the truth, I am a liar. You cannot get out of this circular trap once you agree to the rules of the English grammar. So your rules have made you separate from the rest of the world of sentences. Of course rules of the grammar are arbitrary; who says you have to be bound by them? But the tangled hierarchy in the brain is compulsory, part of the laws of the universe, an important aspect of the laws designed to bring about manifest experience. So manifest experience comes only with the price of an apparent split: subject and object.

I mentioned before that the ego establishes a simple hierarchical relationship with the world. To regain the tangled hierarchy of the quantum self experience, we use intimate relationships in which conflicts arise. We talked about this in the movie. Unresolved conflicts generate new possibilities for consciousness to process, but only



quantum consciousness—God-- can process the new. When a new creative insight comes from this kind of processing, often the insight is also the discovery of the "otherness" of the other (using the words of **Carol Gilligan**; read her book In a Different Voice). From this discovery, we can love the "other" unconditionally; we can make positive emotional brain circuits much mentioned in the movie.

Reincarnation and Evolution

The film also touches upon two more important subjects: reincarnation and evolution. These are important subjects of discussion for the quantum activist because they provide the motivation for transformation.

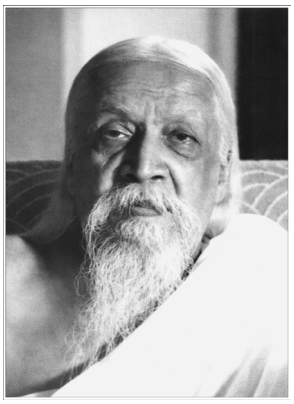
Let's frame two discussion questions:

Can anyone transform? Can anyone be creative which is the prerequisite for transformation?

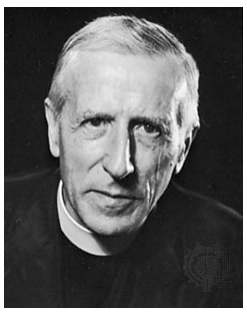
What is the next stage of our evolution and how can I help consciousness to arrive there?

Our tendency is to say yes when we hear the first question, but obviously there must be more subtlety here. For any endeavor, the success depends on our motivation and the strength of our intention. How creative we are in our transformative journey must depend on how motivated we are toward creativity, toward finding soul-satisfying answers to our inquiries, to our need to know. And the strength of our motivation depends on our reincarnational history.

Now to the subject of evolution. But don't look at evolution with the Darwinian lens; you will be lost in the smoke and mirror of vain ideas like chance and necessity that gives you no notion either of the purposive nature of evolution or of the creativity involved in it. Two philosophers **Sri Aurobindo** (read his book *The Life Divine*) and



Teilhard de Chardin (read his book *The Phenomenon of Man*) taught us how to look at evolution as the evolution of consciousness. Their theories, when interpreted and expanded using quantum ideas, allow us to ask the question of the next stage of our evolution. Read the two books referred above when discussing this topic along with Wilber's book, *Up from Eden*, and my book *Creative Evolution.*



Can anyone transform? Can anyone be creative which is the prerequisite for transformation?

It is fact that there is a huge spectrum of creative people. Anyone can be creative; but what factors

determine our place in the creativity spectrum? And this question is important for both outer and inner creativity.

The materialist answer is based on what is called genetic determinism—who we are depends entirely on our genes. But this way of looking at us is a dead end; there is no evidence for it. The answer that environment determines how creative we become is not supported by much evidence.

So what determines our place in the creativity spectrum? Sure, environmental conditioning plays a role, even genetic conditioning may play a limited role (such as being a factor for our physical stamina), even chance may play a role. But is there one factor that plays a pivotal role? I think there is such a pivotal factor and it is determined by our reincarnational history—the learning we accumulated through many past lives.

Materialists do not like the idea of reincarnation; for them there is only the material body, and its death is finale for us. But there is now much accumulated empirical evidence in favor of reincarnation, and additionally, there is a good detailed theory that explains all the data. *(Physics of the Soul)*. The theory and data on reincarnation suggests the pivotal factor in determining our place in the creativity spectrum.

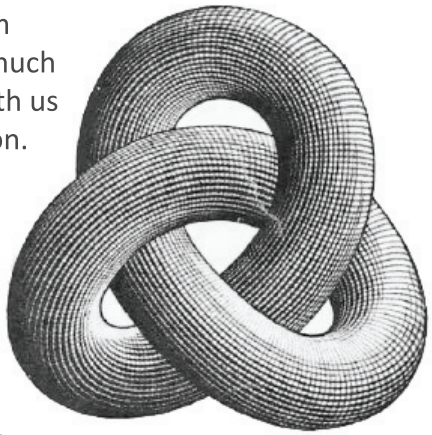
The empirical evidence for reincarnation can be seen in the data on quite a few geniuses: the East Indian mathematician

Ramanujan and the German music virtuoso **Wolfgang Mozart** are two notable examples, both of whom were born into non-talented families and showed signs of creativity starting at a very early age.

Clearly, these geniuses defy any explanation in terms of genetic or environmental conditioning.

The fact is that Ramanujan was born into an entirely non-mathematical family; yet the fellow could perform summations of infinite mathematical series just like that. And though Mozart's family was somewhat musical, this could hardly explain how a three year-old could compose original musical scores. So these kinds of facts must be considered as evidence that geniuses are sometimes born with innate creativity passed on to them from their previous incarnations.

Additionally, the idea of reincarnation helps us settle the question of motivation. Theoretical considerations based on the new science give us further clarity about the importance of our reincarnational past for our motivation for creativity. I classify creative acts into two types—-acts of discovery (giving new contexts of meaning) I call fundamental creativity; and acts of invention I call situational creativity (when we work within already known contexts). Following the terminology of yoga psychology, let's denote the propensity for fundamental creativity by the Sanskrit word sattva and situational creativity by another Sanskrit word rajas. And then there is also the propensity for no creativity at all, the tendency of exhibiting just conditioning in one's actions. This propensity we will denote by the Sanskrit word tamas.
Reincarnational theory suggests that the mental propensities we bring from our past reincarnations include these three propensities of sattva, rajas, and tamas. Now mind you, conditioning is ever present; it is a price we pay for growing up and cluttering our brain with memories. So tamas dominates when we begin our reincarnational journey, and only gradually with many incarnations does it give way to the creative tendencies of rajas and sattva.



Clearly, our place on the creativity spectrum depends on how much sattva we bring with us into this incarnation. The amount of sattva influences our capacity for discovery which is the most highly transformative act of creativity. The more sattva we bring, the more is our tendency to delve into fundamental creativity. In the same way, the reincarnational inheritance of rajas determines how successful we can be in the empire-building type of creativity-- situational creativity.

It turns out that the purpose of our reincarnational journey is to discover the archetypes; a job that takes us many lives. The amount of sattva we bring provides us the personal motivation toward the creative exploration of the archetypes.

In the movie **Groundhog Day** the hero is driven by the archetype of love from life to life until he learns love's self-less

essence. We are all doing that sort of thing as we pursue one archetype or another. Just like our hero, we remain unconscious of what we are doing when we begin our reincarnational journey; and we catch on to the game only as we mature.

The discovery of the archetypes requires fundamental creativity. Situational creativity then allows us many secondary acts of elaboration based on our discovery. The more sattva we have in a particular life, the more we can engage with the direct discovery of the archetypes. Then we are using creativity *"in the search for the soul."* If we have sattva tainted by rajas our search for the soul is compromised by empire building and cashing in on the fruits of our soul-journey.

How do we increase our motivation to be creative? By purifying our sattva. But this too is a limited goal. Ultimately, what we are looking for is a balance of all three proclivities—sattva, rajas, and tamas.

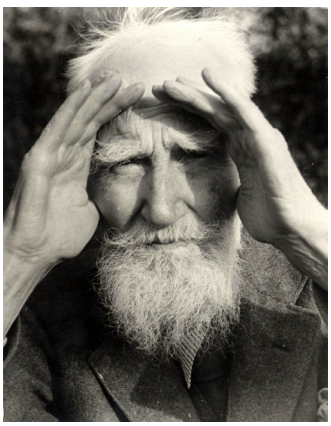
It is a fact that apart from personal creativity, societies also progress; becoming more and more creative in a process which we call the building of civilization. Without civilization we would still be "reinventing the wheel" over and over. And building civilization requires rajas.

"What is the next stage of our evolution and how can I help to arrive there?"

One of the most startling aspects emerging from quantum creativity is that biological evolution itself involves a progressive series of quantum leaps creating greater and greater purposeful complexity like the rungs of a ladder so that ever more purposive aspects of our existence can be manifested. The empirical evidence for these quantum leaps are the famous fossil gaps that Darwinism cannot explain. Who makes the quantum leaps? The fossil gaps involve a change of at least the species; so the creativity involved is at least the creativity of the entire species consciousness.

In an earlier book on quantum creativity which is now out of print, I wrote a section entitled *"Creativity and the Preparation for the Next Century."* I was too conservative. Creativity is our preparation not only for the new century or new millennium, but also for the next stage of our evolution, no less. What is this next stage? How do we get to the next quantum leap of evolution? How can I personally help the evolutionary process? These are now the most important questions.

The truth is, in the course of our evolution in consciousness, we have gotten stuck. We live in an age when a materialist science still dominates, and forces of separateness and a determined-machine mentality reign supreme. This mentality breeds mediocrity and consumerism even in the arena of traditional creativity. The following dialog taken from **George Bernard Shaw's** *Heartbreak House* could very well take place even in this twenty-first century:



Ellie: A soul is a very expensive thing to keep: much more so than a motor car.

Shotover: Is it? How much does your soul eat?

Ellie: Oh, a lot. It eats music and pictures and books and mountains and lakes and beautiful things to wear and nice people

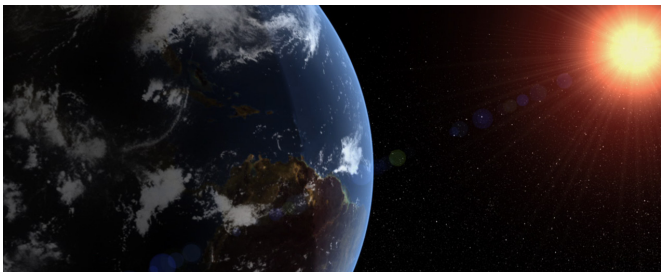
to be with. In this country you can't have them without a lot of money: that is why our souls are so horribly starved.

But like Ellie, what most of us don't realize is that what starves the soul is not the lack of money to consume soul-food, but the lack of creativity to produce soul-food. And when mediocrity and consumerism produce soul starvation en masse the creative people in our society, instead of being the heroes whom we follow toward the evolution of consciousness, become "outsiders" whom we mistrust as "too dangerous" to follow as examples.

We cannot respect creative people unless we ourselves appreciate the value of creativity enough to become producers as well as consumers of soul food.

But never mind. As I envision it, the evolutionary movement of consciousness is on and many of us hear its call; the readiness lies in your reincarnational history. If you are reading this then you have already begun to understand the essential components of your creative journey, and this workbook and your discussion group are acting as your guide to further your journey.

We are in the mental age of the evolution of consciousness: the job is to make better representations of mental meaning. Examining anthropological data tells us that when we were hunters and gatherers we used our minds to give meaning to the physical world around us. We developed the physical mind. Some people, for example the materialists among us are still dominated by their physical mind. In the next horticultural era of small scale agriculture (such as with the use of a hoe), we settled down; men and women worked together and we learned to give meaning to our feelings. This gave us the vital mind. We made some dominant circuits of negative emotions; but we never finished the job, we never created much representation of the meaning of positive feelings such as love. Next came (prematurely) the stage of the rational mind with the discovery of heavy agricultural machinery, and this is our current stage



What is the next stage of mental evolution?

Clearly a rational mind is giving meaning to meaning or mind itself (which is abstract thinking) and the next stage must be to use the mind to give meaning to our intuitions. Call it the intuitive mind.

Many of us are ready to pay attention to our intuitions; we see too clearly the fallibility of the rational mind. Right now we have a crisis situation—climate change, terrorism, economic meltdown, breakdown of democracy, liberal education denigrated to job training, sky rocketing health care costs, these are the signposts of the crisis. These problems were caused by the rational mind with a lot of help from the faulty worldview of scientific materialism and our negative emotions.

The solutions will come only from the intuitive mind which facilitates our ability to explore creativity.

But the genie of our creativity is bottled up for most of us—-to liberate the genie is to deal with our negative emotions. We live in an age when we interact with machines more than we do with other human beings. In this age to give up conditioning and machine-certainty and embrace the uncertainty of emotions in the search for a creative life is a tremendous challenge.

But this is what we must do. We must develop positive emotional brain circuits and develop them collectively. When we do that our vital/mental propensities will be inherited via the nonlocal memory of our morphogenetic fields by future generations.

Some of us love deadlines. Some people have even created a deadline called 2012. It is a metaphor. But the idea is useful. *What is the deadline for your transformation?*

To join in on the discussion, please visit

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