

FUTURE VOICE[®]



QUANTUM PHYSICS

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MAGAZINE IV - 07 | 2021

*“A great many people think they are thinking
when they are merely rearranging their prejudices.”*

David Bohm

QUANTUM PHYSICS

This is the first of two consecutive magazines on the topic Quantum Physics.

In this edition, we focus first and foremost on the scientific basics. In the second magazine on the topic, we highlight the possibilities of making this knowledge concretely usable.

The Quantum Physics field of knowledge is comprehensive; we only can present a small insight here, which would like to encourage you to perform your own further research.

The opening to the vast universe takes all our ways of knowing: the rigors of science, the powers of imagination, embodied wisdom and mystical vision.

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ALL ARTWORK
BY
LIAM DONOGHUE

“Why do we keep re-creating the same reality? Why do we keep having the same relationships? Why do we keep getting the same jobs over and over again?”

In this infinite sea of potentials that exist around us how come we keep re-creating the same realities? Isn't it amazing that we have options and potentials that exist but we're unaware of them?

Is it possible that we're so conditioned to our daily lives ... so conditioned to the way we create our lives that we buy the idea that we have no control at all?

We've been conditioned to believe that the external world is more real than the internal world.

This new model of science says just the opposite - It says what's happening within us will create what's happening outside of us.”

Dr. Joe Dispenza D.C., Doctor of Chiropractic Medicine,
Researcher, Lecturer, Author of several books.

LAW OF ATTRACTION

A Lecture by Dr. Joe Dispenza

86 % of the people that have a smartphone – the first thing they do when they wake up is they do their WhatsApp, their text on Facebook – they take a picture of their feet, they post it on Facebook. Then they do their Instagram, you know, they took a picture of their cat. And then they link in and they check one email and another email. And they check the news. Their attention is on everything known in their life, they reaffirm their identity. And then they go through all those routine behaviors.

95 % of them they are not even present and conscious. Or they are remembering their problems in their past. That's how they start their day.

But what if you woke up in the morning, and you said this: “What is the greatest expression of myself that I can present to the world today.” What if you said: “I’m not gonna be guilty anymore, I’m done. I’m not gonna be unworthy.” Those are the emotions, behaviors and thoughts that are connected to the old self.

Do you know, that if you woke up in the morning and then you said: “Who do I wanna be when I open my eyes? What thoughts do I wanna think? What thoughts do I wanna fire and wire in my brain? Let me plan my behaviors today. I’m going to leave my sadness and pain behind and I’m going to open my heart. I’m going to feel gratitude. I’m going to feel joy. I’m going to feel inspiration.”

Your job is to maintain that modified state of mind and body your entire day. And if you are able to maintain that modified state of mind and body every single day, get ready, because something unusual is going to happen in your life.

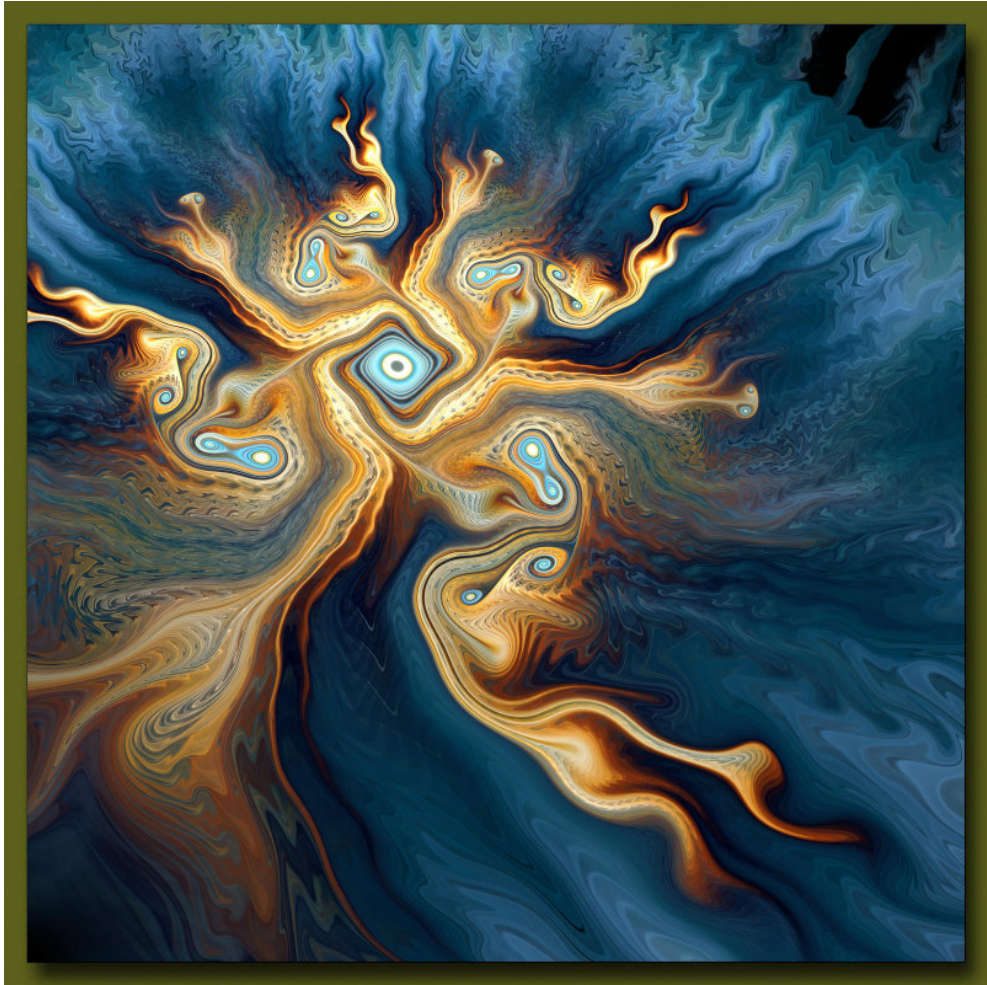
It's the law.

You are going to run into a new opportunity because you are in a new state of being. And that is what we teach people – to rehearse the future and take the brain out of the past and put it in the future; take the body out of the past and put it in the future.

But if you get up every single day feeling the same way and you wake up and you go: “Oh my god, who’s that, oh god.” And: “Let me remember my problems, grrr ...” – you just return back to the old self.

So the act of planning your behaviors – the research shows that as you begin to plan what you are going to do and how you gonna do it – you begin to change your brain to look like the event has already occurred. You begin to prime your brain into the future and out of the past.

And if you can create the emotion, you are more prone to get your behaviors to match your intentions, your actions equal to your thoughts, and your mind and body working together. And you will begin to arrive at a new destiny. We’ve seen it over and over and over again.



What is a simple definition of quantum?

Quantum physics says that your mind and matter are so intimately connected that it is impossible to separate the two. That matter has a mind, and mind is a matter. And you can't pull them apart.

And so in quantum physics – it's amazing because when they started studying the very tiny particles in atoms like electrons and photons they expected that those particles would behave like planets rotating around the sun. Predictably, but they don't.

They are responding to mind. And so now all of the sudden the quantum physicist comes along to measure the electron. And the electron goes from a wave of possibility and all that energy collapses into a particle. And it is called collapsing the wave function. They turn their back and they no longer look and observe the electron and it turns back into energy.

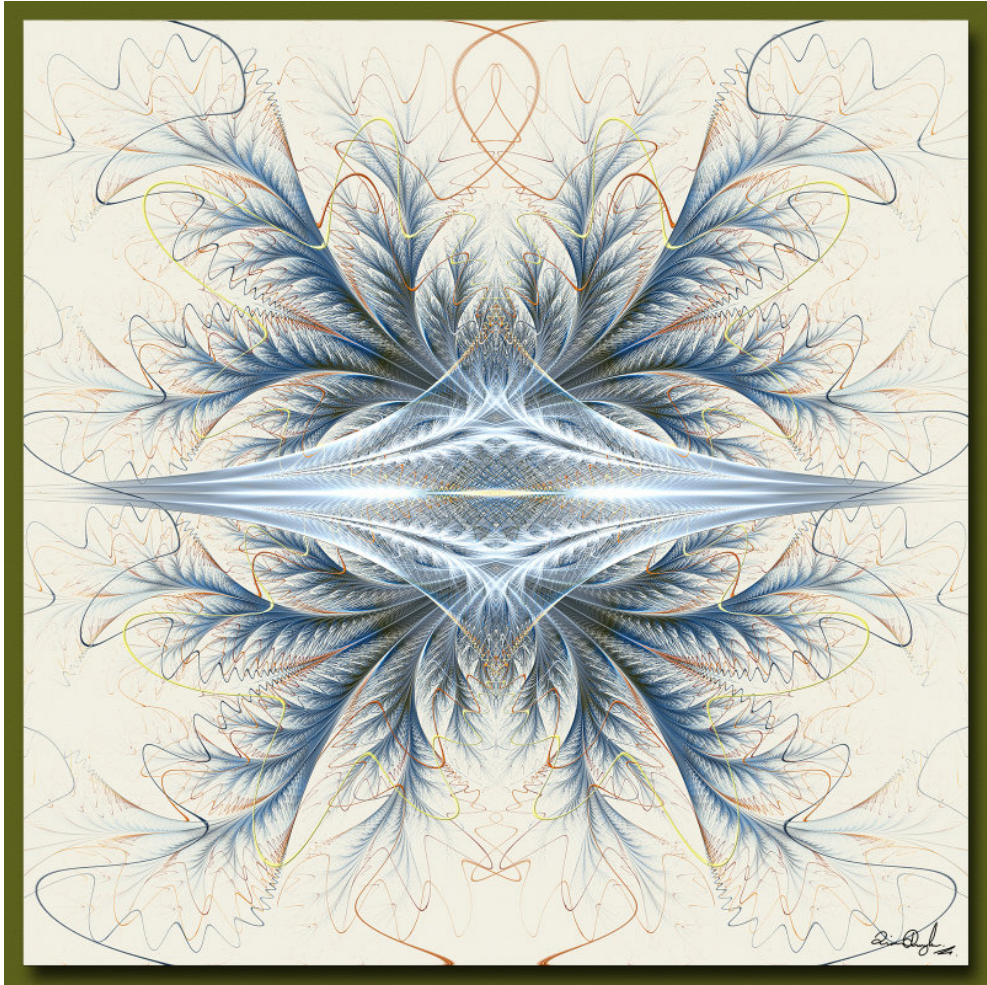
So mind is affecting matter.

So, in other words: If you wake up every morning and you do the same thing, all that you have been doing for the last ten years then you calling the predictable world of Newtonian physics.

And if you are doing the same thing over and over again we can take your past and lift it up and set it on your future and it is going to be exactly the same. So then, if you are viewing your life from the same level of mind every single day then you are collapsing the same possibilities into the same reality.

So, if you teach people then to find the present moment – in quantum physics all possibilities exist in the present moment – but most peoples brains are anticipating the future based on the past and they are not present.

So then it requires training and practicing finding the present moment and beginning to change their habits and their thoughts and their behaviors.



Most people don't know this but there is an invisible field of energy around your body. And when you react to someone or something, you draw from this invisible field and you turn it into chemistry.

And the field around your body shrinks. And now you're more matter and less energy. You are more particle and less wave. And most people then – when you are matter trying to change matter, you always try to force the outcome. You try to control the outcome. You try to predict the outcome.

And people then get competitive or they hold on or they manipulate or they cheat, they steal, because that is the only way they can get what they want.

But the quantum model of reality – when you are truly in the present moment, when a person begins to open their heart and they can begin to sustain an elevated emotion, they begin to broaden the magnetic field around their body to nine meters wide. Now they are more energy than matter. They are more wave than particle. And they can absorb better effects on reality.

When you open your heart, this science, like dropping a pebble in water you produce a ripple. If you drop a bigger stone, you produce a bigger ripple. If you are able to sustain that state you keep dropping the same rock over and over again and you broadcast a signature into the field.

The emotion is the magnetic charge. Your intention, your thought is the information that is carried on that wave. And when you combine a clear intention with an elevated emotion, you begin to produce an effect on matter.

You see, the thoughts that you think are the electrical charge in the quantum field. The feelings that you emot are the magnetic charge in the quantum field. And how you think and how you feel broadcast an electromagnetic signature that influences every single atom in your life. The thought sends the signal out, and the feeling draws the event back.

So if you are walking around your life feeling sorry for yourself and feeling like a victim, you are broadcasting that signature into the field. And you will create more experiences to suffer, because we are not punished for our sins, we are punished by our sins. And sin is an attitude. And sin is how you think and how you feel.

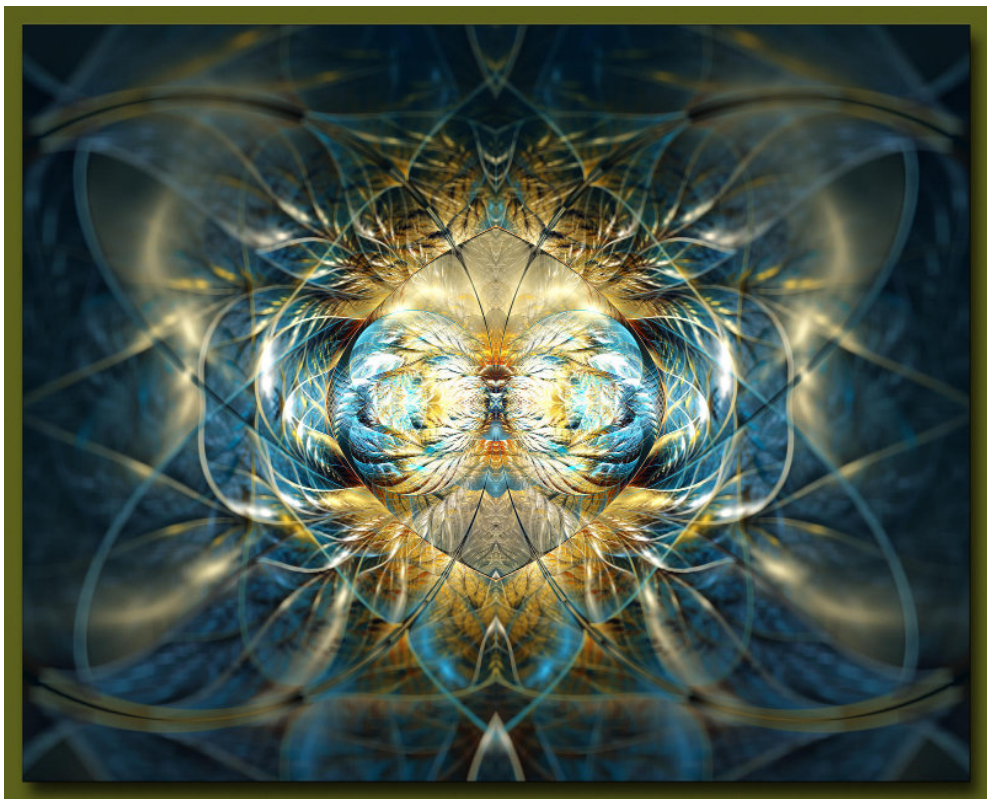
So then, when you cause people to give up their guilt and their shame and their unworthiness; and teach them how to open their heart and create coherent waves in their brain and in their heart, they are going to produce the miraculous. It takes training. And it takes practice. And it takes learning new information and deprogramming ourselves in the believing we are limited.

But if you are living by the hormones of stress and you have no energy, no field, then you can't produce an effect on matter.

So then, life is about the management of energy. And where you place your attention is where you place your energy. And if your attention is on the knowns and on the predictable future or your attention is on the familiar emotions of the past you are siphoning energy out of the present moment and you have no energy to create with.

And when you are able to do this work and practice it very well, you will begin to do what is inalienably your birth right. And that is to create an unknown wonderful experience in your life. So it just takes practice in order to do it.

Text © Dr. Joe Dispenza D.C., Doctor of Chiropractic Medicine,
Researcher, Lecturer, Author.



WORLDVIEWS

"The universe is made of stories, not atoms." - Muriel Rukeyser

Ever since humans first developed the capacity to think and wonder, we have been awed by the magnificence, beauty, and sometimes terrifying forces of nature. Witnessing the journey of life from the miracle of birth to the finality of death, our ancestors wondered: Where did we come from? Why are we here? Where are we going? Like us, they wanted to know how we fit into the world around us.

To make sense of these mysteries, we create stories. Some cultures create stories about earth spirits embedded in nature, others about a single sky god who rules from above, still others tell us we are alone in an indifferent universe.

Can we say that any of these stories are truer, better, more valid than others? If so, in what ways? How do we evaluate what is true? And what happens when the stories we have relied on stop making sense?

For the last 300 years modern society has relied primarily on scientific discovery to tell us about the nature of reality. On the one hand, we have all benefitted enormously from the technologies that science has made possible. On the other hand, many may have felt uneasy when science cannot account for or explain our most significant personal experiences. Many find a deepening mismatch between what they know from their own experience and what they know from science.

Experiences such as out-of-body or near-death events, telepathy, clairvoyance or remote viewing, and the powerful healing effects of intention and prayer are just some of the anomalies that challenge the dominant scientific explanations for how the world works.

However, we are witnessing a remarkable convergence of discoveries on the frontiers of science that appears to support age-old wisdom from perennial spiritual traditions. We are learning, for example, from quantum physics about the ways certain aspects of reality transcend our usual understanding of time and space, and we are learning from neurosciences and consciousness studies remarkable connections between mind and body. Phenomena such as 'quantum nonlocal interconnectedness' and the power of mind and emotions to affect the body (and other parts of the physical world) do not fit the dominant story about how the world works.

Gradually, purely mechanistic views are likely to be replaced by the truly mind-boggling revelations issuing from quantum physics, systems and complexity theories, Psychoneuroimmunology, and other mind-body studies in consciousness research. For decades, news from these frontier sciences has been filtering through to the general public.

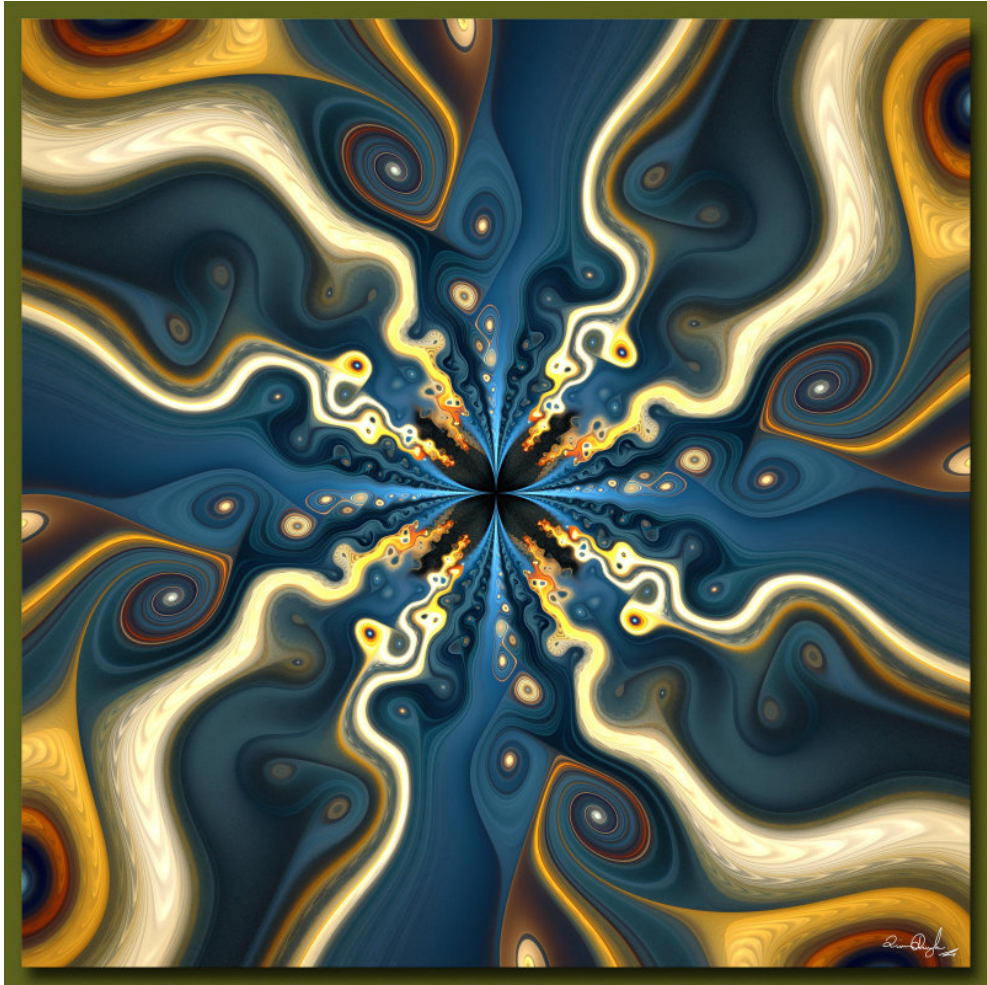
The emerging story tells us the universe consists not of things but of possibilities – those relationships and processes are more fundamental than substances.

It tells us that the world is a communion of subjects, not a collection of objects. It is a conscious, evolving universe, in which we participate through our every thought and action.

Reality is far more mysterious than they have been taught. And at the core of this mystery is the creativity and potency of consciousness.

Philosopher Duane Elgin puts it this way:

“I believe that the most far-reaching trend of our times is an emerging shift in our shared view of the universe – from thinking of it as dead to experiencing it as alive. In regarding the universe as alive and ourselves as continuously sustained within that aliveness, we see that we are intimately related to everything that exists. This insight represents a new way of looking at and relating to the world and overcomes the profound separation that has marked our lives.”



We may wonder why it is so difficult to accept new science and update our version of reality. But worldviews change slowly over time. Consider that we have known for hundreds of years that the world is round and turning on its axis, yet we still talk in terms of the sun 'setting' over the horizon.

Likewise, the discoveries of quantum physicists are not recent. The theory was first developed over 70 years ago. And no matter how well we think we understand the implications of atomic theory and neuroscience, which tell us that matter is mostly full of empty space and that our brains 'construct' our perceptions of the world, the world still looks and feels very much like it is 'out there', solid and reliable.

We can't change our fundamental assumptions about the world without changing the way we gain knowledge about it.

“Every age, every generation has its built-in assumptions ... that the world is flat, or that the world is round, et cetera.

There are hundreds of hidden assumptions ... things we take for granted, that may or may not be true.

Of course, in the vast majority of cases, historically, these things aren't true.

So presumably, if history is any guide ... much about what we take for granted about the world simply isn't true.

But we're locked into these precepts without even knowing it oftentimes.

That's a paradigm.”

John Hagelin, Ph.D., Professor of Physics and Director of the Institute of Science, Technology and Public Policy at Maharishi University, Leader of the Transcendental Meditation Movement, Author of several books.

Each worldview has a corresponding way of knowing, called an epistemology. Epistemology is the branch of philosophy that studies knowledge. It attempts to answer the basic question: What distinguishes true (adequate) knowledge from false (inadequate) knowledge?

The West's bias toward rationalism and empiricism began with the Greeks. In Plato's view, knowledge is merely an awareness of absolute universal ideas or forms, existing independent of any subject trying to apprehend it.

Though Aristotle puts more emphasis on logical and empirical methods for gathering knowledge, he still accepts the view that such knowledge is an apprehension of necessary and universal principles. Following the Renaissance, two main epistemological positions dominated philosophy: Empiricism, which sees knowledge as the product of sensory perception, and Rationalism, which sees it as the product of rational reflection.

The scientific revolution provided even more exacting tools both intellectually and physically with which to probe and analyze the world.

We were taught to suppress our subjective experience so that the senses could gather data without 'hindrance' or 'distortion'.

Other nonrational ways of knowing – such as faith, intuition, spiritual insight, nature, and body-based wisdom – have been associated with earlier stages of cultural development and therefore considered regressive.

Interestingly, in spite of itself, science has made many of its gains and discoveries from these nonrational ways of knowing. In fact, many prominent scientists, including Rene Descartes, James Clerk Maxwell, and Nicola Tesla, all gained inspiration for their discoveries through dreams and visions.

No single way of knowing is adequate for this complex universe. Each has its own domain of expertise. But it takes all of our ways of knowing, all working in concert – rational empiricism, intuition, mystical awareness, and receptive spirit – to open us to the universe.

We are at the threshold of a ‘great divide’ in history. The future of life on the planet arguably turns on what paradigm prevails. When Einstein said, “You cannot solve a problem from the same level in which it was created,” he was referring to paradigms.

Worldviews emerge to solve problems. For an emerging new worldview to take hold, the majority of the population has to deeply understand, beyond abstract intellect, that its current way of thinking is inadequate to solve the problems it faces.

We are being challenged to cultivate our capacities to combine rational and nonrational ways of knowing. This means there is no instruction manual for changing paradigms and no blueprint to follow. Needing absolute answers may well be an artifact from outdated worldviews, while becoming comfortable with uncertainty may be our path to a new one.

"I think some of the things we're seeing with the children today is a sign that the culture is in the wrong paradigm ... and not appreciating the power of thought."

Candace Pert, Ph.D., Neuroscientist and Pharmacologist, Professor at Georgetown in the medical school, Author of several books.



WHAT IS QUANTUM MECHANICS?

Quantum mechanics, the latest development in the scientific quest to understand the nature of physical reality, is a precise mathematical description of the behavior of fundamental particles. It has remained the preeminent scientific description of physical reality for 70 years. So far all of its experimental predictions have been confirmed to astounding degrees of accuracy.

To appreciate why quantum mechanics continues to astound and confound scientists, it is necessary to understand a little about the historical development of physical theories.

Keeping in mind that this brief sketch oversimplifies a very long, rich history, we may consider that physics as a science began when Isaac Newton and others discovered that mathematics could accurately describe the observed world. Today the Newtonian view of physics is referred to as classical physics; in essence, classical physics is a mathematical formalism of common sense. It makes four basic assumptions about the fabric of reality that correspond more or less to how the world appears to our senses. These assumptions are reality, locality, causality, and continuity.

Reality refers to the assumption that the physical world is objectively real. That is, the world exists independently of whether anyone is observing it, and it takes as self-evident that space and time exist in a fixed, absolute way.

Locality refers to the idea that the only way that objects can be influenced is through direct contact. In other words, unmediated action at a distance is prohibited.

Causality assumes that the arrow of time points only in one direction, thus fixing cause-and-effect sequences to occur only in that order.

Continuity assumes that there are no discontinuous jumps in nature, that space and time are smooth.

Classical physics developed rapidly with these assumptions, and classical ways of regarding the world are still sufficient to explain large segments of the observable world, including chemistry, biology, and the neurosciences. Classical physics got us to the moon and back. It works for most things at the human scale. It is common sense.

WEIRD SCIENCE

But it does not describe the behavior of all observable outcomes, especially the way that light – and, in general, electromagnetism – works. Depending on how you measure it, light can display the properties of particles or waves. Particles are like billiard balls.

They are separate objects with specific locations in space, and they are hard in the sense that if hurled at each other with great force, they tend to annihilate each other accompanied by dazzling displays of energy. In contrast, waves are like undulations in water. They are not localized but spread out, and they are soft in that they can interact without destroying each other.

The wave-like characteristic also gives rise to the idea of quantum superposition, which means the object is in a mixture of all possible states. This indeterminate, mixed condition is radically different than the objects we are familiar with. Everyday objects exist only in definite states. Mixed states can include many objects, all coexisting, or entangled, together.

How is it possible for the fabric of reality to be both waves and particles at the same time?

In the first few decades of the twentieth century, a new theory, Quantum Mechanics was developed to account for the wave-particle nature of light and matter.

This theory was not just applicable to describing elementary particles in exotic conditions, but provided a better way of describing the nature of physical reality itself.

Einstein's Theory of Relativity also altered the Newtonian view of the fabric of reality, by showing how basic concepts like mass, energy, space, and time are related. Relativity is not just applicable to cosmological domains or to objects at close to light-speeds, but refers to the basic structure of the fabric of reality.

In sum, modern physics tells us that the world of common sense reveals only a special, limited portion of a much larger and stranger fabric of reality.



*"When you are not looking, there are waves of possibility.
When you are looking, there are particles of experience."*

*"Quantum physics calculates only possibilities ... but if we
accept this, then the question immediately comes who,
what, chooses among these possibilities to bring the actual
event of experience?"*

*So we directly, immediately see that consciousness must
be involved. The observer cannot be ignored."*

Amit Goswami, Ph.D., Professor of Physics, University of Oregon,
Senior scholar in residence Institute of Noetic Sciences,
Author of several books.

THE QUANTUM BASICS

Wave-Particle CoExistence

Electrons can behave as both particles and waves. As waves, electrons have no precise location but exist as 'probability fields'. As particles, the probability field collapses into a solid object in a particular place and time.

Unmeasured or unobserved electrons behave in a different manner from measured ones. When they are not measured, electrons are waves. When they are observed, they become particles. The world is ultimately constructed out of elementary particles that behave in this curious way.



HEISENBERG UNCERTAINTY PRINCIPLE

In classical physics, all of an object's attributes are in principle accessible to measurement. Not so in quantum physics. You can measure a single electron's properties accurately, but not without producing imprecision in some other quantum attribute.

Quantum properties always come in 'conjugate' pairs. When two properties have this special relationship, it is impossible to know about both of them at the same time with complete precision. Heisenberg's Uncertainty (also known as the Indeterminacy) Principle says that if you measure a particle's position accurately, you must sacrifice an accurate knowledge of its momentum, and vice versa. A relationship of the Heisenberg kind holds for all dynamic properties of elementary particles and it guarantees that any experiment (involving the microscopic world) will contain some unknowns.

How are we affected by others' observations? Does every observer affect the world the same way? What causes differences?

BELL'S THEOREM AND NONLOCALITY

'Local reality' is the reality that is governed by the laws of classical physics. In a local reality, influences cannot travel faster than the speed of light. In 1964 Irish physicist John Stewart Bell showed that any model of reality compatible with quantum theory must be nonlocal. For quantum physics to work, information must travel not just faster than light, but instantaneously. Nonlocality suggests that everything in the universe is connected by information that can appear anywhere else, instantaneously.

If everything in the universe is able to communicate instantaneously with everything else, what establishes which information we receive? What are the implications of nonlocality on how we can know the world? How would this change our lives?

The new theories systematically challenged all of the assumptions of classical physics:

Reality faded away like the Cheshire cat because we now know that fundamental properties of the physical world are not fixed; the world changes in subtle ways depending on how we wish to observe it. The objects we encounter in everyday life do not ordinarily exhibit obvious quantum effects because the strangeness of the microscopic world is effectively smoothed out through innumerable interactions with the environment.

Indeed, classical descriptions of nature are often good enough for mundane purposes. But those descriptions are an approximation of a more fundamental quantum world, leaving open the possibility that some aspects of observation may subtly persist even into classical domains.

Locality was replaced with nonlocality, the idea that objects that are apparently separate are actually connected instantaneously through space-time. With nonlocality it is no longer true that unmediated action at a distance is not possible. In fact, such actions are required.

Causality has dissolved because the fixed arrow of time is now known to be a persistent illusion, a misapprehension sustained by the classical assumptions of an absolute space and time. We now know that sequences of events depend on the perspectives (technically called the frame of reference) of the observers.

Continuity has faded away because we now know that there are some discontinuities in the fabric of reality. Space and time are neither smooth nor contiguous.

"It's very easy - Instead of thinking of things as things.

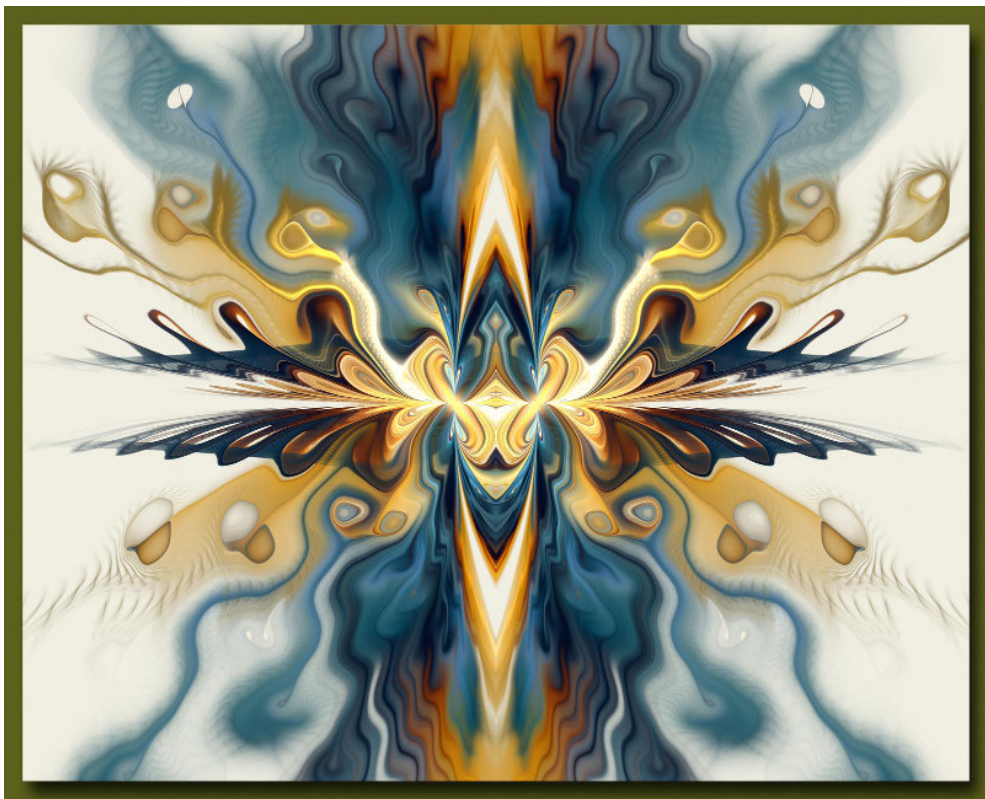
We all have a habit of thinking that everything around us is already a thing existing without my input, without my choice. You have to banish that kind of thinking.

Instead, you really have to recognize that even the material world around us - the chairs, the tables, the rooms, the carpet - all of these are nothing but possible movements of consciousness.

And I'm choosing moment to moment out of those movements ... to bring my actual experience into manifestation. This is the only radical thinking that you need to do. But it is so radical. It's so difficult because our tendency is that the world is already out there ... independent of my experience.

It is not. Quantum physics has been so clear about it. Heisenberg himself, Co-discoverer of quantum physics said atoms are not things, they're only tendencies. So, instead of thinking of things, you have to think of possibilities. They're all possibilities of consciousness."

Amit Goswami, Ph.D., Professor of Physics, University of Oregon,
Senior scholar in residence Institute of Noetic Sciences,
Author of several books.



Practice

Look around you. Imagine that what you are seeing is just the tip of the iceberg, a 'special limited portion of a larger fabric of reality'. Look where there appears to be nothing and imagine that this space is teeming with possibilities. Look where there appears to be something and imagine that what appears solid is mostly space. Feel your hands. Imagine them on the quantum level, particle/waves flashing in and out of existence. Consider how our hands are communicating in quantum language with the rest of the universe. What do you notice?

WHAT DOES IT MEAN?

What does the phrase 'we know' mean? It means that theoretical predictions were made, based on mathematical models, and then repeatedly demonstrated in experiments.

If the universe behaves according to the theories, then we are justified in believing that common sense is indeed a special, limited perspective of a much grander universe.

The portrait of reality painted by relativity and quantum mechanics is so far from common sense that it raises problems of interpretation. The mathematics of the theories are precise, and the predictions work fantastically well. But translating mathematics into human terms, especially for quantum mechanics, has remained exceedingly difficult.

The perplexing implications of quantum mechanics were greeted with shock and awe by the developing scientists. Many physicists today believe that a proper explanation of reality in light of quantum mechanics and reliability requires radical revisions of one or more common-sense assumptions: reality, locality, causality or continuity.

Given the continuing confusions in interpreting quantum mechanics, some physicists refuse to accept the idea that reality can possibly be so perplexing, convoluted, or improbable-compared to common sense, that is. And so they continue to believe that quantum mechanics must be incomplete and that once 'fixed' it will be found that the classical assumptions are correct after all, and then all the quantum weirdness will go away.

Outside of quantum physics, there are a few scientists and the occasional philosopher who focus on such things, but most of us do not spend much time thinking about quantum mechanics at all. If we do, we assume it has no relevance to our particular interests. This is understandable and in most cases perfectly fine for practical purposes.

But when it comes to understanding the nature of reality, it is useful to keep in mind that quantum mechanics describes the fundamental building blocks of nature, and the classical world is composed of those blocks too, whether we observe them or not.

The competing interpretations of quantum mechanics differ principally on which of the common-sense assumptions one is comfortable in giving up. Some of the more widely known interpretations of quantum mechanics include the Copenhagen Interpretation, Wholeness, Many Worlds, NeoRealism, and Consciousness Creates Reality.

Copenhagen Interpretation

This is the orthodox interpretation of quantum mechanics, promoted by Danish physicist Niels Bohr (thus the reference to Copenhagen, where Bohr's institute is located). In an overly simplified form, it asserts that there is no ultimately knowable reality.

In a sense, this interpretation may be thought of as a 'don't ask-don't tell' approach that allows quantum mechanics to be used without having to care about what it means. According to Bohr, it means nothing, at least not in ordinary human terms.

Wholeness

Einstein's protege David Bohm maintained that quantum mechanics reveals that reality is an undivided whole in which everything is connected in a deep way, transcending the ordinary limits of space and time.

Many Worlds

Physicist Hugh Everett proposed that when a quantum measurement is performed, every possible outcome will actualize. But in the process of actualizing, the universe will split into as many versions of itself as needed to accommodate all possible measurement results. Then each of the resulting universes is actually a separate universe.

Quantum Logic

This interpretation says that perhaps quantum mechanics is puzzling because our common-sense assumptions about logic break down in the quantum realm.

Mathematician John von Neumann developed a 'wave logic' that could account for some of the puzzles of quantum theory without completely abandoning classical concepts. Concepts in quantum logic have been vigorously pursued by philosophers.

NeoRealism

This was the position led by Einstein, who refused to accept any interpretation, including the Copenhagen Interpretation, asserting that common sense reality does not exist. The neorealists propose that reality consists of objects familiar to classical physics, and thus the paradoxes of quantum mechanics reveal the presence of flaws in the theory. This view is also known as the 'hidden variable' interpretation of quantum mechanics, which assumes that once we discover all the missing factors the paradoxes will go away.

Consciousness Creates Reality

This interpretation pushes to the extreme the idea that the act of measurement, or possibly even human consciousness, is associated with the formation of reality. This provides the act of observation an especially privileged role of collapsing the possible into the actual. Many mainstream physicists regard this interpretation as little more than wishful New Age thinking, but not all. A few physicists have embraced this view and have developed descriptive variations of quantum theory that do accommodate such ideas.

It should be emphasized that at present no one fully understands quantum mechanics. And thus there is no clear authority on which interpretation is more accurate.

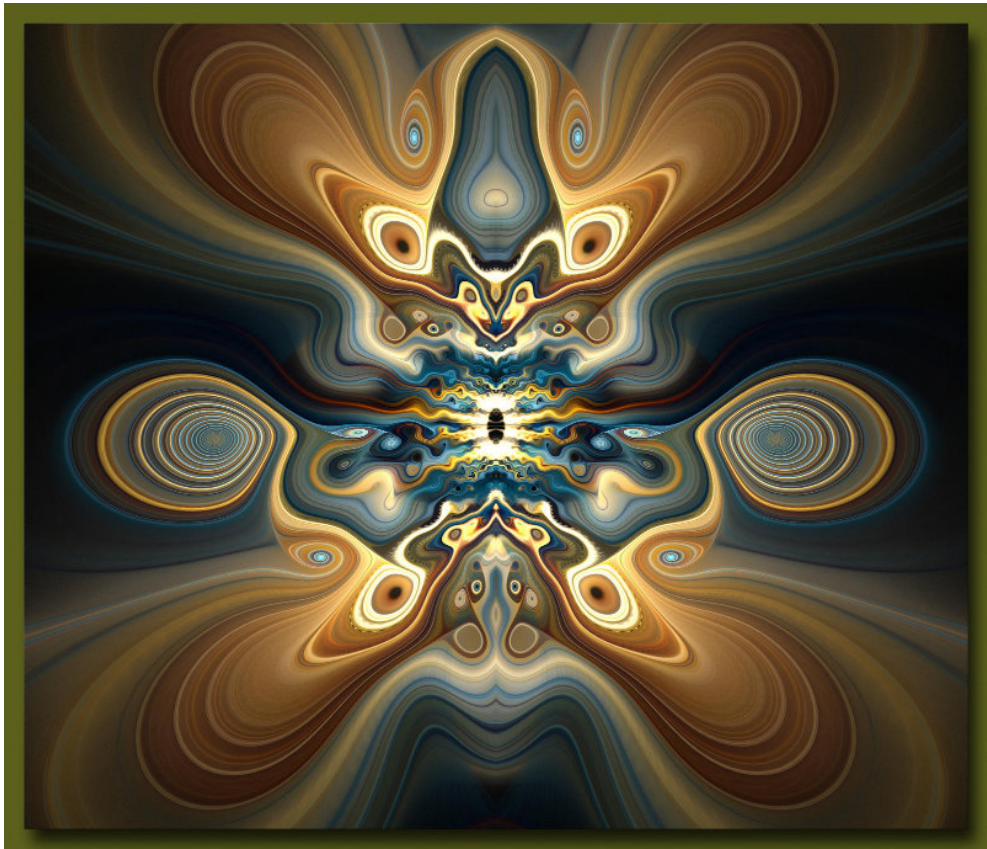
"As far as whether or not we're just living in a big holodeck or not ... it's a question we don't necessarily have a good answer to.

I think this is a big philosophical problem we have to deal with - in terms of what science can say about our world - because we are always the observer in science.

So we are still always constrained by what is ultimately coming into the human brain ... that allows us to see and perceive the things we do.

So it is conceivable that all of this really is just a great illusion ... that we have no way of really getting outside of to see what is really out there."

Andrew B. Newberg, M.D., Professor in the Department of Integrative Medicine and Nutritional Sciences, Director of Research at the Marcus Institute of Integrative Health at T. Jefferson University Hospital, Lecturer at the University of Pennsylvania, Author of several books.



EXPERIMENTAL TESTS OF MIND MEETING MATTER

One approach to gaining some leverage on which quantum reality may be closer to truth is to consider frequently reported anomalies that are not well accounted for by classical physics but might be by quantum physics.

In particular, psychic and mystical experiences have been reported throughout history and in all cultures. Laboratory experiments attempting to demonstrate psychic effects have been conducted since the late nineteenth century. These efforts continue today, including at the (Institute of Noetic Sciences) IONS' Consciousness Research Lab.

The cumulative evidence from the discipline of parapsychology strongly suggests that some psychic phenomena do exist. Many scientists assume that such research consists of ghostbusting by dubiously credentialed 'paranormal investigators', as this is how the media tends to portray parapsychology.

In fact there is a long and distinguished history of academic scientists who have seriously investigated these phenomena and published their results in peer-reviewed journals. When this body of data is assessed without prejudice, there is strong evidence that we can gain information without the use of the ordinary senses, unbound by the usual constraints of space and time.

The evidence remains controversial because these effects are impossible under the rules of classical physics. But the space-time flexibility, nonlocality, and acausal connections described by quantum physics do allow for such phenomena.

Thus, the data of parapsychology provide a new perspective from which to reinterpret the various quantum realities. Bohm's 'wholeness' interpretation, in which everything is ultimately interconnected with everything else, seems particularly compatible with psychic phenomena. Imagine that at some deep level of reality, our brains are in intimate communion with the entire universe as Bohm's interpretation proposes.

If this were true, what might it feel like on an experiential level? You might occasionally get glimpses of information about other people's minds, distant objects, the future, or the past. You would gain this information not through ordinary senses and not because signals from other minds and objects somehow traveled to your brain, but because your brain is already coexistent with other minds, distant objects, and everything else.

To navigate this psychic space, you would focus your attention inward rather than outward.

This proposal is supported by the role of attentional focusing in meditation practice, which has long been associated with the development of spontaneous psychic and mystical experiences. From this perspective psychic experiences may be reinterpreted not as mysterious powers of the mind but as momentary glimpses of quantum wholeness, the fabric of reality itself.

The Institute of Noetic Sciences studies the relationship between the mind and the quantum world. One type of experiment uses a sensitive optical apparatus to measure whether mental intention interacts directly with the wave/particle characteristics of photons.

Another uses an electronic random number generator based on the direction that photons take upon hitting a half-silvered mirror; and detects whether the mind can influence the photon's 'decision' about which path to travel.

These experiments continue a legacy of a half-century of research by many scientists around the world who have explored the role of mind in the physical world.

Overall this body of research suggests that mind does interact with matter to a small degree, and so far no simple explanatory model has been developed that clearly explains how this happens. The answer may well lie in an improved understanding of the quantum realities.



SCIENCE AND MYSTICISM

**Does quantum mechanics help us to understand consciousness?
How does it inform our understanding of the spiritual dimensions of
our experience?**

We must remember in our attempts to address these questions that confusion can arise when we mix metaphors with mathematics. There are clearly areas of commonality between mystical experiences of unity and what physicists describe as the quantum field.

Still, the leaders of quantum mechanics, including Niels Bohr, Werner Heisenberg and Erwin Schrodinger, rejected the idea that physics and mysticism were describing the same phenomena. In the words of Max Planck, efforts to bring them together are “founded on a misunderstanding or, more precisely, on a confusion of the images of religion with scientific statements. Needless to say, the result makes no sense at all.”

**However, it does make sense to seek a reconciliation between science
and spirituality.**

In our postmodern and scientific age, what is the most obvious direction for a spiritually seeking soul to turn in search of Truth (with a capital T) after traditional mythic religion has been seen through and left behind? Why, it's toward science, surely, with its claim to universal truth and its mathematical certainty to ten decimal places about the inner logic of space and time?

Having our spiritual beliefs backed by science lends them some degree of legitimacy, however tenuous the connection. Moreover, it seems to make those beliefs more easily defensible against the preying guards of scientific authority – that is, the skeptics and scientific materialists of our era – both when encountering such adversaries in the world at large and when the same materialist doubts arise in our own minds.

That we should even feel the need to overcome the doubt of the scientific materialist worldview indicates how all-pervasive it actually is, and how thoroughly steeped in it most of us are.

We need not force a scientific explanation onto intuitive insights into the connections between science and spirit. We can let our intuitions and spiritual insights stand and be evaluated on their own terms, for their beauty and their power to inspire and stir a feeling of deep accord between ourselves and the world.

As British physicist Sir Arthur Eddington put it a century ago:

“In the mystic sense of the creation around us, in the expression of art, in a yearning towards God, the soul grows upward and finds the fulfillment of something implanted in its nature.” ...

The pursuit of science [also] springs from a striving which the mind is impelled to follow, a questioning that will not be suppressed. Whether in the intellectual pursuits of science or in the mystical pursuits of the spirit, the light beckons ahead and the purpose surging in our nature responds. (The Nature of the Physical World)

Quantum physics, with its startling revelations and freakish discoveries, has successfully awakened the world from what William Blake called ‘Newton’s slumber’. We can no longer look at a world that appears real, local, consistent, and causal, and believe with full conviction that we are perceiving the whole of reality. Nor can we say that we know what reality we are perceiving.



"Quantum superposition implies that ... a particle can be in two or more places or states simultaneously.

And this is a very bizarre concept, and one of the hallmarks of the quantum world."

"It's only in conscious experience that it seems that we move forward in time. In quantum theory, you can also go backwards in time."

Stuart Hameroff, M.D., Professor of Anaesthesiology and Psychology
and Associate Director of the Center for Consciousness Studies at
the University of Arizona, Author of several books.

QUANTUM JUMPS

Interview by Anthony Chene with Cynthia Sue Larson

Cynthia Sue Larson:

I've got a degree in physics from UC Berkeley. And I've had a lifelong fascination with the true nature of reality; and actually believe that's probably what propelled me to have some of the experiences that I had, which demonstrated that there are sometimes these remarkable shifts in reality that can occur.

And what we call Quantum Jumps are not just something that happens on the quantum, so-called, scale but they can happen at any level of physical reality.

I've had a fairly normal stretch of time in my life when I was doing normal research. I had a job in the banking industry. When things started changing was around 1994. Then I started really noticing remarkable changes in reality that was following a Kundalini Awakening which was a change in my inner energy. It seemed like being floated with so much energy that it was incredible.

And sometimes seeing so much light, I felt blinded even with my eyes shut. There was so much light around me. During that and then also after I was noticing that I would sometimes be spontaneously aware of things happening in remote locations like spontaneous remote viewing. Or a 360-degree vision. That I could see all the way around me, at quite a distance and outside the walls of the house.

And ever since then, I have had the ability at times to have exactly the same experience again. I didn't test it so much by doing those kind of things of going to see if what I saw was real. But my daughters tried to sneak up on me and they never could, especially after that. It was just impossible because I could see them before they got to me.

I've had other things happened where if I'm daydreaming I've been observed in two locations. I know I'm in one place where I'm daydreaming, but I'm observed somewhere else. So there is a bi-location that can occur.

I give you an example of one morning then my daughters were quite young I needed to go wake them up each morning so they go to school.

So, and they were too small to open the curtain in their room. It was too heavy. So I would go down the hall, turn the light on. I walked to the window, and I said "Good morning girls" and had open three heavy curtains that would then go up.

And one morning, it was a cold morning. I didn't want to get out of bed right away, and I was still thinking about dreams and daydreaming a little bit. And in my mind I was daydreaming that I walked in the hall, turn on the light, said "Good morning girls", open the curtain and that wouldn't it be great if it would be so easy.

But then I hear noises from their room. And then they come running around the house and they are like "Mom, Mom where are you?" And then "Mom, what are you doing back in bed?"

I never got out of bed. I said, "What? What do you mean. You just saw me?" And they said "Yes." And I said "Where was I?" And they said "In our room."

And at that moment I'm jumping out of bed and running to go see what happened. And their light is on, the window curtain is open – and nobody else could have done that. It only could have been me.

And I know I didn't. So I experienced I was in bed. They experienced I was there. So that was what a bi-location felt like. So for me daydreaming and a sort of wishing I was there.

The other time it happened, I was daydreaming and wishing I was somewhere and someone saw me there. So I've done this twice. And it feels great. It is just feeling like "Ahh, I wish I could be there" and then guess what – maybe you are.

After this experience I immediately looked up to see how to explain this kind of experiences. And I have found out that throughout history people have had this kind of experiences. It's really quite normal. And it is something that is considered often something that is typical for a shaman or someone who is the healer for a community. Because people who have that much energy can help to be a conduit for changes in reality.

Anthony Chene:

**How can physics explain these Quantum Moves in our daily life?
To what extent can we really understand Space and Time?**

Cynthia Sue Larson:

For me the most interesting thing that I've learned about physics was quantum physics at UC Berkeley. I loved my classes in that subject matter. And after my Kundalini Awakening I came to realize that a lot of that answer to "What is the nature of reality" seems to be held in the mysteries of quantum physics. Which although we can work out the mathematics and we can even build atomic bombs and nuclear power plants, we don't exactly think the way quantum physics shows us that the world really operates.

And what's so wonderful and mysterious about the quantum physics and quantum mechanics is that when we look to see what are these building blocks of matter we find that at the very center of the very smallest inseparable indivisible particle which would be like an electron - if you can't get any smaller of that and that qualifies as a quantum particle - those little electrons can actually be observed to be in one place and then it is like they vanish. They can change on energy level and show up instantly somewhere else. And they do other things also. ...

Find the full interview on youtube

<https://www.youtube.com/watch?v=M29FHi-1pao>

Anthony Chene Youtube Channel

<https://www.youtube.com/c/AnthonyCheneproduction/videos>

Anthony Chene Website

<https://anthonychene.com>



Special thanks for the Study Guide to:

THE INSTITUTE OF NOETIC SCIENCES

The Institute of Noetic Sciences (IONS) is a nonprofit research and educational organization that serves an emerging movement of globally conscious citizens who are dedicated to manifesting our highest capacities to create a better world.

The word 'noetic' comes from the ancient Greek 'nous'. It refers to inner knowing: a kind of intuitive consciousness that provides direct and immediate access to knowledge from beyond our normal senses and rational thinking. Noetic Sciences explores the inner cosmos of the mind – consciousness, soul, spirit – and how it relates to the outer cosmos of the physical world.

On the 1971 trip home from the moon, Apollo 14 astronaut Edgar Mitchell had a life changing epiphany leading to the vision and creation of the Institute of Noetic Sciences.

As he watched the planet Earth floating in the vastness of space, he was engulfed by a profound sense of universal connectedness. In Mitchell's own words: "The presence of divinity became almost palpable, and I knew that life in the universe was not just an accident based on random processes. ... The knowledge came to me directly."

www.noetic.org

ALL ARTWORK



LIAM DONOGHUE

Liam Donoghue has been producing fractal art for well over 20 years now, from the early days of the psychedelic mandelbrots through the computer explosion to now, where advanced tools and processing power allows him to produce large format high detail images far removed from the early days.

"Inspiration comes from many places, I love the use of light found in Turner paintings and the colours found in the impressionists, but obviously there is a lot of the abstract in my work, along with themes of nature and beauty." – **Liam Donoghue**

www.chaosforlife.co.uk

HUMAN RIGHTS

VOICES

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*"As the bonfires of knowledge grow brighter,
the more the darkness is revealed to our startled eyes."*

Terence McKenna

