PART TWO – The Holographic Universe Workshops

Welcome back to the Holographic Universe.

This is Part 2 of a 5-part workshop series designed to examine how quantum physics and recent scientific experiments are radically changing our understanding of life, our reality, and our spirituality.

Let's briefly review what we learned in Part One….

First, matter is not solid. It is mostly empty space.

"We were all taught in school that the world is made of stuff - of matter, of mass, of atoms. Atoms make up molecules, molecules make up materials, and everything is made of that. But atoms actually are mostly empty. For example, if this ball were the nucleus of an atom - a proton in a hydrogen atom, for example - then the electron circling this, which would describe the outer limits of that atom, would be out by that mountain over there, roughly twenty miles away, and everything in between is empty. In fact, the universe is mostly empty."

Remember Dr. William Tiller saying…

"Within all the atoms and molecules – all the space within them – the particles take up an insignificant amount of the volume of an atom."

We also learned through the Double Slit Experiment that these "particles" that make up matter are not particles all the time. They are "waves" until they are observed, and then they "pop" into being a particle in a specific location. In fact, these "particles" are actually "waves" most of the time.

"The conclusion is inescapable…. The single electron leaves as a particle, becomes a wave of potentials, goes through both slits and interferes with itself, to hit the wall like waves.

"Physicists were completely baffled by this. So they decided to peek and see which slit it actually goes through. They put a measuring device by one slit to see which one it went through, and let it fly.

"But the quantum world is far more mysterious than they could have imagined. When they observed, the electron went back to behaving like a little marble. It produced a pattern of two bands, not an interference pattern of many. The very act of measuring, or observing, which slit it went through meant it only went through one, not both. The electron decided to act differently, as though it was aware it was being watched.

"It was here that physicists stepped forever into the strange netherworld of quantum events. What is matter? Marbles? Or Waves? And waves of what? And what does an

observer have to do with any of this? The observer collapsed the wave function simply by observing."

We learned there is a Field that exists as waves of possibilities and contains an infinite number of wave frequencies to create the physical universe that we see. This is where all "particles" live as waves until they are observed and "pop" into a specific physical location.

"What we've discovered at the core basis of the universe, the foundation of the universe, is a single universal field of intelligence - a field which unites gravity with electromagnetism (light), with radioactivity (with the nuclear forces). So that all the forces of nature and all the so-called particles of nature - quarks, leptons, protons, neutrons - are now understood to be just different ripples on a single ocean of existence.

"It's called the Unified Field, or Superstring Field - a single universal field of intelligence, an ocean of existence at the basis of everything - mind and matter. And all the so-called particles of the universe, the forces in our universe, everything in the universe are just ripples on that ocean of existence.

"That's the Unified Field, and that Field is a non-material field. Planets, trees, people, animals - we're all just waves of vibration of this underlying unified superstring field.

"Physicists give this a name; they call it a "quantum wave function," because it seems wavy. However, this wave function isn't just a wave of matter, like an ocean wave or a sound wave or any kind of wave of matter. It's a wave of possibility. It's a kind of "thought" wave. And because it is a wave of thought, or possibility, or not-matter, it's invisible to us.

"But we can't explain what we DO see as matter in these small corners of space and time unless we picture that these matter particles somehow come out from or emerge from these thought-wave patterns which are invisible to us."

4. We also learned how a hologram is made using a two-step process….

First, we shoot a laser beam out of a laser gun. And then we immediately split that laser beam into two beams. One of the beams - called the Reference Beam - makes its way and eventually hits a sensitive holographic plate or film. This is like the film we used to have in our cameras, before digital photography.

The other half of the laser beam hits an object first - in this case, an apple - and then hits the holographic plate. When these two parts of the original laser beam come back together at the holographic plate, they interfere with each other just like the waves did in our Double Slit experiment, and they form an interference pattern on the holographic plate.

If you look at the holographic plate at this point, you cannot see the apple. All you can see is the interference pattern, which looks like a bunch of waves. So at the end of Step 1, we have an object stored on the holographic film in wave frequencies.

To get that object to pop out as a hologram, we now need to do Step 2 by focusing another laser beam on the holographic plate where our apple sits in wave form, and if we get just the right angle, out pops the apple, looking very real and very solid.

What we didn't talk about in Part One was that a single piece of holographic film (or plate, or disk) can store a very large number of objects on it. In fact, a hologram is such an efficient storage device that it is the next step in computer storage. Very soon you will begin to see what's being called a holographic versatile disk, or HVD, which can store 30 times the amount of data as a DVD.

So to make one certain object pop out as a hologram – like our apple – the laser in Step 2 has to choose those precise wave frequencies for the apple by being shot at a specific angle at the film.

In Part 1 we learned that the physical universe we see is actually not solid matter at all, but more like a hologram.

"But surprising new clues are emerging that everything - you and I, and even space itself - may actually be a kind of hologram. That is, everything we see and experience - everything we call our familiar three-dimensional reality - may be a projection of information that's stored on a thin, distant two-dimensional surface, sort of the way the information for this hologram is stored on this thin piece of plastic.

"Is the three-dimensional world an illusion in the same sense that a hologram is an illusion? Perhaps. I think...I'm inclined to think Yes, that the three-dimensional world is a kind of illusion, and that the ultimate precise reality is the two-dimensional reality at the surface of the universe.

"When we look at some of the modern scientific views of reality that have tried to get down, down, down to the nitty-gritty, we see that at its ultimate level, say in M-theory or String theory, that reality is not solid - it's mostly empty space - and whatever solidity it has seems more to resemble a hologram picture rather than material, harsh, solid reality."

In short, quantum physics says that the physical universe we perceive as "reality" is created by collapsing the wave function from unlimited possibilities in the Field into a hologram. BUT… the holographic reality we see looks very real to us, even though it isn't real at all….

"I'd be a fool not to realize how lucky I am, to be on this ship, serving with these people. It's like a dream come true... just like this.

“A dream? Is that what this is? Is that what I am?

“I know you're a computer-generated image, but... your smell, your touch, the way you feel, even the things you say and think seem so real.

“Thank you.

“How far can this relationship go? I mean, how real are you?

“As real as you need me to be...”

“Creating the illusion that things are located where they are NOT is the quintessential feature of a hologram…. This is because a hologram is a virtual image, an image that appears to be where it is not…”

“It is relatively easy to understand this idea of holism in something that is external to us, like an apple in a hologram. What makes this difficult is that we are not looking at the hologram; we are part of the hologram.”

So says Michael Talbot in his book, The Holographic Universe.

The conclusion to Part One was that quantum physics is very clear... What we call “reality” is actually a holographic picture that only looks and feels real to us inside it.

In the words of Albert Einstein, “Reality is merely an illusion, albeit a very persistent one.”

“The easy answer to the question as to whether reality is itself illusory and it's really all fuzzy - it's all just probabilities - is Yes. So if I were hurrying off to a meeting instead of being interviewed and somebody came up to me and pestered me on the street and asked that question, I'd say Yes, Yes, that's basically right. But it's more complicated than that, because it's only fuzzy when you're not interacting with it.

“Whether or not we're just living in a big Holodeck or not, it's a question that we don't necessarily have a good answer to. I think this is a big philosophical problem that 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 things that 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.”

But this idea that “reality” is an illusion is not a new concept. Hinduism, Buddhism, and Sikhism all talk about *Maya,* or life as an illusion.

Mipham Rinpoche said that “The real sky is knowing that samsara [the physical world] … merely an illusory display.”

The Kabbalah says that “the first aspect of God is all that there really exists; all else is an illusion.”

And *A Course in Miracles* puts it this way…

“In any state apart from Heaven, life is illusion…. Outside of Heaven, only the conflict of illusion stands; senseless, impossible and beyond all reason…. Illusions are but forms. Their content is never true.”

What quantum physics has done is, first, scientifically confirmed what many other people have said about “reality” being an illusion; and secondly, discovered what “reality” actually is – a holographic picture that only looks and feels real to those inside it.

You could actually call this physical reality we live in a “holographic 3D total immersion movie”….

Here’s Woody Allen’s version of a “total immersion movie”… and let me set this up for you. The man you will see wearing a jungle hat was a character is a movie, but he stepped out of the movie and escaped into the real world and met a woman and fell in love. Now he wants to take her back into the movie with him...

“Look, I don't want to talk any more about what's real and what's illusion. Life's too short to spend time thinking about life. Let's just live it.

“Live it how?

“Well, we'll begin with dinner.

“Oh, listen, no... we can't... I've only got a few dollars....

“Well, we're not going to use your money.

“But that's all we have... unless you've done something...

“Well, say no more. The moon will be full, the stars will be out and we're going stepping....

“But we're broke...

“Leave that to me...

“It's him! Tom, you're back!

“I want you to meet my fiancee, Cecelia... This.... oh, well, you know all these people...

“It's not possible!

“I'm in the world of the possible.

“Yeh, well you better get back in the story, you little weasel.

“Ah! You anticipate me... Follow me, trust me...

“Where am I?

“But she can't be in here!

“Why not? Come on.... Cecelia, my money's good up here.

“I feel like I'm floating on air...

“But she upsets the balance...

“I told you he'd be back...

“Can we get on with the plot now?

“How can we with her here?

“She's here with me, and I'll sock any man in the jaw who makes her feel unwanted.

“Well, it's about time you got back.

“We can finally go to the Copa Cabana.... none of us have eaten in ages....

“Good. I'm bringing a guest.

“Won't Kitty Haynes be surprised!

“Table for 7 please, Arturo...

“Yes, sir.... seven?

“Seven.

“But that's impossible. It's always six.

“We have an extra...

“Seven, Arturo.....

"This person?

"Would you like some more champagne?

"Oh, thank you. Listen, Tom, I don't know what they're charging you, but those champagne bottles are filled with Ginger Ale.

"That's the movies, kid.

"I don't care. I love every minute of it.

"Thank you, thank you. Who are you?

"I came with Tom. You sing so beautifully...

"What the hell is this? We're supposed to meet and marry... who's the skirt?

"My fiancée.

"He met her in New Jersey.

"What is this?

"Kitty.... she's real...

Which brings us to the question…

Exactly how is this holographic 3D total immersion movie created for us to experience as physical "reality"? Just in the last couple of years we have discovered the answer to that question through some very amazing brain research….

Dr. Karl Pribram has had a long and illustrious career. Born in Austria in 1919, Pribram is both a neurosurgeon and a neurophysiologist who spent many years trying to find out where memories are stored in the brain.

The problem was that in the 1920's a brain scientist by the name of Karl Lashley had found that *"no matter what portion of a rat's brain he removed, he was unable to eradicate its memory of how to perform complex tasks it had learned prior to surgery."*

So Pribram set out to solve the mystery of memory storage that seemed independent of brain cells (called "neurons"). But it wasn't until Pribram met David Bohm, one of the pioneers in quantum physics, that he found his answer.

Here's how Michael Talbot describes it in his book, The Holographic Universe…

"Bohm helped establish the foundation for Pribram's theory that the brain operates in a manner similar to a hologram, in accordance with quantum mathematical principles and the characteristics of wave patterns."

Technically, Talbot continues, *"Pribram believes memories are encoded not in neurons, or small groupings of neurons, but in patterns of nerve impulses that crisscross the entire brain in the same way that patterns of laser light interference crisscross the entire area of a piece of film containing a holographic image. In other words, Pribram believes the brain is itself a hologram."*

"Just as a hologram functions as a sort of lens, a translating device able to convert an apparently meaningless blur of frequencies into a coherent image, Pribram believes the brain also comprises a lens and uses holographic principles to mathematically convert the frequencies it receives through the senses into the inner world of our perceptions."

In short, Pribram believes "*our brains mathematically construct 'hard' reality by relying on input from a frequency domain*."

That's a very important sentence you will hear several times…. "*our brains mathematically construct 'hard' reality by relying on input from a frequency domain*."

Let's translate all of this into simple English. According to Karl Pribram and the results of many scientific experiments – some of which we will discuss in a minute – the human brain itself is a hologram. Its function is to receive holographic wave frequencies from "a frequency domain" (what we are calling "The Field") and translate them into the "particular" physical universe we see "out there" ("particular" meaning "made of particles" in this case).

Again, from Pribram…. "*our brains mathematically construct 'hard' reality by relying on input from a frequency domain*."

… or …

Our brains construct our (holographic) physical reality after receiving – and based on – wave frequencies from The Field.

You may have heard of another famous physicist, Nikola Tesla. He also said "My brain is only a receiver. In the Universe there is a core from which we obtain knowledge, strength, inspiration. I have not penetrated into the secrets of this core, but I know that it exists."

Think about a radio or TV set, which convert wave frequencies we cannot see into sounds we can hear and images we can see. Many scientific experiments have now proven that, in the same way, the human brain receives wave frequencies "downloaded" to it from the Field, and then converts those wave frequencies into our holographic physical "reality."

We're going to take a look at some of those scientific experiments and watch and listen to some of the experts involved….

"Scientific experiments have shown that if we take a person and hook their brains up to certain PET scans or computer technology and ask them to look at a certain object, and they watch certain areas of the brain light up. And then they've asked them to close their eyes, and now imagine that same object. And when they imagine that same object, it produced the same areas of the brain to light up as if they were actually visually looking at it.

"So it caused scientists to back up and ask this question: So who sees, then? Does the brain see? Or do the eyes see? And what is reality? Is reality what we're seeing with our brain, or is reality what we're seeing with our eyes?"

Next, Dr. Stuart Hameroff from the University of Arizona is going to describe a very famous experiment done by Dr. Benjamin Libet in the late 1970's….

"In the late 1970s, a neurophysiologist at University of California San Francisco named Ben Libet did some very famous experiments. What Libet did was study patients who were having neurosurgery on their brains, with their brains exposed, while they were awake. They were given a local anesthetic to numb the area of the skull and scalp to access their brains, and they were awake and Ben would talk to these people.

"So, for example, what he did was to stimulate their little finger and look at the part of the sensory cortex on the opposite side that was related to that, record from it electrically, and ask the patient when he or she felt the stimulus on the little finger.

"He would also stimulate at that particular area of the cortex.

Let me make sure you understand the set-up... a patient was on the operating table fully awake but with their skull and scalp anesthetized and the skull cut away so that their brain is exposed. Dr. Libet would stimulate their little finger on one hand - maybe a pin prick or needle stick - and the patient was supposed to tell Libet as soon as they felt the stimulus. Then Libet would directly stimulate the part of the brain associated with that same little finger and ask the patient when they felt that.

"Now what you would think would be that if you stimulate the little finger, it takes a finite period of time to get to the opposite side of the cortex, so the patient would report it a fraction of a second later after the stimulus. And when you stimulated directly, the patient would report it immediately.

"He found just the opposite. When he stimulated the little finger, the patient felt it immediately; and when he stimulated directly on the cortex, there was a delay."

The brain is actually where we "feel" things. So when you stick the little finger with a needle, that sensation has to travel to the brain before it is "felt." But if you stimulate the

brain directly, you should feel the stick immediately in your little finger, because the sensation is already in the brain. But, contrary to all expectations and logic, the patients felt the needle stick on their little fingers immediately, and it took time before they felt the stimulus directly to the brain.

Libet was flabbergasted. He tried to find an explanation, as did many other scientists; and the prevailing theory became that "time can travel backwards." It's called the "time reversal theory," or "subjective backward referral," or "antedating." However, after trying to prove this and failing, Libet himself later said "*there appeared to be no neural mechanism that could be viewed as directly mediating or accounting for the subjective sensory referrals backward in time*." In other words, there is no evidence in the brain for "time reversal" as the explanation for this phenomenon.

Just put that information to the side for a moment, and let's go on to the next experiment…

"So the experiment that I developed to look at this is… we wire you up, typically to look at skin conductants, but also heart rate and other parameters. You will sit in front of a computer screen, and you press a button. And you know that five seconds later you're going to see a picture. It could be a very calm picture, or it might be a very emotional picture. And it's randomly selected by the computer immediately before it's shown. So when you press the button, the future is not yet determined. You would need real precognition in order to be able to jump into the future and get it somehow.

"So since we're looking at your physiology, we know what happens to physiology after you see an emotional image, and we know what happens after you see a calm image. The question is: Does that future experience leak into your present? Does it happen before you see the picture? And through this experiment, you can see what happens….

"Electrical activity of the heart – EKG…

"This is photoplethysmograph, which is the amount of blood in the fingertip…

"And respiration, breathing in and breathing out.

"Press the button, well what happens to physiology? Well, if it starts rising before the image appears, it may suggest that you're about to get an emotional picture. And if it stays calm, it suggests maybe you're going to get a calm picture.

"We've done this kind of experiment for several hundred people, and colleagues have run this experiment as well, and as it turns out, that is exactly what you see. People become aroused before randomly selected pictures in the future that happen to be emotional, and they remain calm before randomly selected pictures that are calm. This has been seen in heart rate changes, in skin conductants, in the brain, and basically systemically throughout the body.

The only conclusion to this experiment that makes any sense is that the brain knows what picture the computer is going to choose and display before the person is aware of it – indeed, **before the computer has even chosen which picture to display** – and the body is responding accordingly! Basically, what science is discovering is that our brains seem to know what's going to happen before we do.

"There have been some studies which have shown that when people are beginning to move a hand, or beginning to say something, that there's actually activity in the brain - in certain nerve cells of the brain - even before they become consciously aware of what they were trying to do."

That's worth repeating... "There have been some studies that have shown that when people are beginning to move a hand, or beginning to say something, that there's actually activity in the brain – or certain nerve cells of the brain – even **before** they become consciously aware of what they were trying to do."

As strange as that may sound, it is being proven time and time again with the latest research and technology. Here's a BBC documentary from June, 2010, that confirms this phenomenon.

"I'm in Berlin to take part in an experiment designed to explore the source and timing of my decisions. I'm quite apprehensive, because the results could have a profound effect on how I live my life. They will reveal who is in charge of my decisions. Is it the conscious "me," or an unconscious mass of grey matter that I have no control over?

"So this is going to be looking at my brain? Another day, another scanner…. The experiment is simplicity itself. I have to randomly decide, and then immediately press, one of these left or right buttons. At the same time, the scanner system records when my brain made the decision, and the computer when I physically press the button.

"Okay, Marcus, we are ready to start...

"The test didn't take long, and to be honest it's not terribly exciting. But I'm hoping the results will be a bit more interesting.

"In your case, up to six seconds before you make up your mind, we can predict which decision you're going to make.

"Six seconds?

"Absolutely, six seconds, yeh.

"Six seconds? So I was conscious of making a decision to press my right finger down, and you're saying that six seconds earlier my brain had already made that decision?

"Exactly. So here we can show you how we did it. In this region there's a pattern of brain activity that emerges before you make up your mind that tells us which way you're going to decide. And these blue regions, they get more active when you're going to choose "left," and the yellow regions get more active when you're going to choose "right."

"That's a bit frightening. It sort of implies therefore my conscious decision is a very secondary thing to my actual brain activity.

"Absolutely, absolutely. It seems that there's a lot of unconscious brain activity going on that is shaping your decisions, and that your consciousness comes in at a very late stage. It seems that what our experiments reveal is that there's like a mechanism unfolding, a deterministic mechanism, that leads up to your decision at a later point in time. And that was inevitable. It could only go one way.

"I mean, that has got to be the most shocking experiment I think I've seen on this journey. The fact that when I become conscious of making a choice, that John can - six seconds earlier - predict what I was going to do before I even realized what I was going to do. I mean, that is absolutely extraordinary. Six seconds is such a long time. I mean, I sort of don't find it so disturbing that, okay, sure, some part of my subconscious mind is building up to a conscious decision. But John, by looking inside my head, his consciousness knows before I consciously know what I'm going to do. That is really shocking."

Professor John Haynes explained, "What our experiments reveal is that there is… a deterministic mechanism unfolding that leads up to your decision at a later point in time."

Remember what Karl Pribram said, that "*our brains mathematically construct 'hard' reality by relying on input from a frequency domain*."

If we put these brain experiments together with Pribram, and what we know from quantum physics, the conclusion is inescapable…

…Your brain first receives a hologram in wave frequencies downloaded from the Field. It then translates those waves into particles to create your holographic "physical reality," and then it sends that "reality" "out there" for you to perceive and experience.

You remember how a hologram is made… At the end of Step 1, we have an object stored on the holographic film in wave frequencies. To get that object to pop out as a hologram, we need to do Step 2…

Therefore, here's what we're talking about in terms of the human brain and our holographic universe….

If we consider that The Field is like one giant (actually, infinite) piece of holographic film with every possibility already contained in it…

… in other words, Step 1 of creating the hologram has already been done…

…then what Pribram is talking about is a new Step 2 to get our holographic reality to pop out where wave frequencies are downloaded from The Field to the human brain, translated into particles, and then projected "out there" to appear as our holographic "physical reality."

Or, as Pribram actually said it, "*our brains mathematically construct 'hard' reality by relying on input from a frequency domain*."

So let's talk about each of the brain experiments we looked at….

"In the late 1970s, a neurophysiologist at University of California San Francisco named Ben Libet did some very famous experiments…."

In the Libet experiments, when he stimulated the little finger, it took no time for the sensation to be felt in the brain because the brain already knew the little finger was going to be stimulated since that hologram had already been downloaded, translated into a hologram and projected out. But when the brain was stimulated directly, it was like a new hologram being downloaded to the brain, so it took time to send the sensation out to the little finger and back to the brain again.

"So the experiment that I developed to look at this is…."

In Dean Radin's experiments, the brain knew what picture the computer was going to choose and display because it was all part of a hologram that had already been downloaded, translated into a hologram and projected out. And as the brain sent that hologram "out there" to be perceived and experienced, the body responded to the hologram **on its way out - while it was being projected** - so the body knew what picture the computer was going to choose before the computer actually chose the picture and displayed it.

"In this region there's a pattern of brain activity that emerges…."

And the BBC's documentary is like the ultimate proof. Apparently they have actually found the area of the brain which is collapsing the wave function, converting the wave frequencies downloaded from The Field into holograms to be projected "out there." So by watching this area of the brain, **we** know 6 seconds before the person knows what their hologram is going to be - in this case, pushing the right or left button.

The only conclusion that makes sense when you put all these experiments together is that wave frequencies are being downloaded to the brain from The Field, which are then translated into a "particular" (particle) hologram and projected "out there" to perceive and experience as "reality"…

… and only when we perceive and begin interacting with that particular hologram do we become consciously aware of what's happening…

… and the whole process can take as much as 6 seconds.

Let's briefly review what we talked about in Part One of this workshop about an "observer" "collapsing the wave function."

We said that when quanta [electrons] are viewed by an observer, these waves of possibilities "pop" and assume a specific location in space and time, which is what we see as "reality." This is called "collapsing the wave function."

To put it the other way around, the natural state of an electron is as a wave. It only pops out of its wave state to form a particle in a specific location in space and time when it is being observed.

This new brain research proves that the human brain is the "observer" that "collapses the wave function", since quantum physics says it is the "observer" that changes an electron from a wave into a particle. Put more simply, it's the brain that takes those wavy 3-D pictures, and translates them into something we can see and understand.

"If only conscious beings can be observers, then we're hooked in to the very existence of reality. Without us there would just be this expanding superposition of possibilities, with nothing definite ever actually happening.

"Millions and millions of globs of energy and light - photons and electrons - make up this imaginary three-dimensional solid world, which doesn't exist at all according to relativity or quantum mechanics."

It might be easier to understand all of this by using an example we are familiar with: the personal computer.

Computers use what is called "binary code," which is made up of nothing but zero's and one's. If you look at the zero's and one's themselves, they look random and chaotic, like those wavy 3-D pictures.

But inside every computer is a CPU — a Central Processing Unit — that acts as the "brain" of the computer. This CPU receives the binary code in sequences of zero's and one's, translates that binary code, and projects the results onto a computer screen where we can see it in a form that makes sense to us. For example, we start with binary code…

In fact, that's what's happening right now in order for me to be able to show you this movie.

A computer also has its own sensory perceptions, which include things like a mouse, a touch screen, a microphone, a video camera, etc.

When we interact with the computer through one of its senses — like clicking the mouse — that message gets sent back to the CPU for further processing. Therefore, in the same way that a computer's CPU receives the binary code, translates it, projects the results onto a screen, and then processes the inputs that come back through the mouse and other sensory perceptions, our human brain receives wave frequencies from the Field, translates them into particles by collapsing the wave function, projects the results "out there," and then processes the inputs that come back through our own sensory perceptions.

And it looks like this…

This is a very important point…. Our senses – seeing, hearing, tasting, smelling, touching, etc. – are not really sensing some independent "reality" "out there," but in fact are first projecting that reality so that it ***appears*** to be "out there." It's not just a one-way street of incoming perception, but a two-way street of projection first, and then perception.

Apparently, once our brain converts the wave frequencies downloaded from the Field (by collapsing the wave function), it ***projects*** the results "out there" and makes it appear that we are surrounded by a "holographic 3D total immersion movie."

Once again, as Pribram said, "*our brains mathematically construct 'hard' reality by relying on input from a frequency domain*."

Then, and only then, our senses "read" what has been projected "out there" and bring that information back to the brain.

Here's a video from YouTube produced by a Turkish non-scientist, Adnan Oktar, that has a very good message but was a very poor English translation. So I re-wrote and re-recorded the translation, and that's why it will be my voice you hear…

"We've been taught that the process of "seeing" is when light clusters, called "photons," travel from an object to the eye and pass through the eye where they are refracted and focused on the retina at the back of the eye. Here these light rays are turned into electrical signals and then transmitted by neurons to the center of vision at the back of the brain.

"We now know that the opposite is true: that the act of seeing actually takes place in this center in the brain. All the images we view in our lives, and all the events we experience, are actually experienced in this tiny and dark place. Both the film you are now watching and the boundless landscape you see when you gaze at the horizon actually fit into this place of a few cubic centimeters.

"These physical facts make us come to an indisputable conclusion: Everything we see, touch, hear and perceive as matter is only electrical signals in our brain. For instance, we see a bird in the external world. In reality, this bird is NOT in the external world, but in our brain. The bird we see is in fact the electrical signals in our brain. Likewise, the

sounds we hear from the bird are also in our brain. Put simply, the shape and sound of the bird are nothing but the brain's interpretation of electrical signals.

"This is also true when it comes to distance. Someone who watches the stars in the sky assumes they are millions of light years away from him. Yet the stars are actually inside him, in the center of vision of his brain.

"While you are watching this film, the truth is that you are not inside the room that you assume yourself to be. On the contrary, the room is inside you. When you see your body, you think you are inside of it. But remember that your body is an image formed inside your brain as well.

"To imagine matter to have an existence outside the mind is indeed a deception. The perceptions we observe may well be coming from an artificial source. We can understand this better with an example...

"Let's imagine that we could take our brain out of our body and keep it alive in a glass box. Then let's get a computer filled with information related to a particular setting, such as image, sound, and smell. We'll connect this computer to the brain with electrodes and send the prerecorded data to the brain. As our brain receives these signals, it will see and live the setting that the computer is transmitting.

"We could also send signals to the brain from this computer about our own image. For example, we could send the electrical information - such as the sight, hearing, and touch - that we would experience while sitting at a desk. Our brain would perceive that we were a businessman sitting in his office. This imaginary world would continue as long as the information kept coming from the computer, and we would never realize that we were actually a brain sitting in a glass box.

"It is indeed very easy for us to be deceived into believing that what we are perceiving is real, even though it has no material basis."

We have been conditioned since birth to believe that what we see "out there" is "real" – an independent, objective reality that has a life of its own, and our role is limited to observing it and perceiving it and interacting with it.

NOT SO, according to the latest scientific research. We are ***projecting*** our reality first, and then perceiving it coming back to us.

The bird first arrives in our brain as wave frequencies downloaded from The Field….

The brain then translates those wave frequencies into a hologram of the bird by collapsing the wave function….

That hologram is then projected "out there" so that the bird appears to be "real."

And then the bird "comes back to us" through our physical perceptions.

"The more you look at something in detail in what we think of as solid matter, the less and less solid it begins to look.

"The only realities we know are the ones our brain manufactures. Our brain receives millions of signals every minute and we organize them into holograms which we project outside ourselves and call reality."

It's as if you were sitting in the middle of a movie theater with a white screen 360 degrees all around you, but the movie projected onto that screen was coming from inside your own brain. In other words – although we don't know exactly how this works yet - your brain is the movie projector, and the movie you're watching – that you're totally immersed in – is a hologram, and is not real.

In 1991, before all this recent research took place, Michael Talbot asked...

"If the holographic brain model is taken to its logical conclusions, it opens the door on the possibility that objective reality – the world of coffee cups, mountain vistas, elm trees, and table lamps – might not even exist….

"Is it possible that what is 'out there' is really a vast, resonating symphony of wave forms, a 'frequency domain' that is transformed into the world as we know it only <u>after</u> it enters our brain?"

Of course, now we know the answer is Yes. That's exactly what's happening.

"There is no "out there" out there, independent of what's going on "in here."

"Reality is unset Jello - that's the way I like to put it - this just big indeterminate sludge out there that's our potential life. And that we, by our very act of involvement - our act of noticing, our observation - we get that Jello to set. We're intrinsic to the whole process of reality. Our involvement creates that reality.

"And so we have this involvement in everything. We are our world. There's no "out there" out there. There's no place where we end and everything else begins."

David Bohm – you remember him – said that "the tangible reality of our everyday lives is really a kind of illusion, like a holographic image… Underlying it is a deeper order of existence, a vast and more primary level of reality that gives birth to all the objects and appearances of our physical world in much the same way that a piece of holographic film gives birth to a hologram."

Here are some more quotes from The Holographic Universe by Michael Talbot....

"For Pribram, this synthesis made him realize that the objective world does not exist, at least not in the way we are accustomed to believing. What is 'out there' is a vast ocean of waves and frequencies, and reality looks concrete to us only because our brains are able to take this holographic blur and convert it into sticks and stones and other familiar objects that make up our world."

"If the concreteness of the world is but a secondary reality, and what is 'out there' is actually a holographic blur of frequencies, and if the brain is also a hologram and only processes some of the frequencies out of this blur, what becomes of objective reality?...Put quite simply, it ceases to exist.… Although we may think we are physical beings moving through a physical world, this is an illusion…. We are really 'receivers' floating through a kaleidoscopic sea of frequency."

Michael Talbot was clearly ahead of his time, because now we have proof that there is no 'out there' out there…

All there is is a holographic 3D total immersion movie which we are projecting so that it appears to be "out there."

Now the interesting question comes….

Is there one big hologram of the Universe that we all see and are all part of? Isn't that what is meant by "The Holographic Universe?"

The answer is "No." Each individual must have their own individual and unique hologram they are projecting – their own "private reality."

Why?

Remember the quote from Karl Pribram, who "*believes that the brain is itself a hologram… which mathematically constructs 'hard' reality by relying on input from a frequency domain*."

Since there is not one large common brain, there is also not one large common hologram. Each individual human brain receives and translates it own separate, individual and uniquely downloaded hologram. If there WAS a common hologram – one big hologram of the Universe for everyone – then we would each see "reality" exactly the same, and that doesn't happen. We all see "reality" just a little differently.

For example….

We're walking down the street and you suddenly stop and excitedly tell me, "Hey! That guy looks exactly like Brad Pitt!"

And I turn to you and say, "No he doesn't! He doesn't look anything like Brad Pitt."

What's happened here? You have seen pictures and movies of Brad Pitt, and you have an image of what you've seen. I could have seen those very same pictures and movies, but I have a different image of Brad Pitt. So when we see the same man on the street, he can look like your Brad Pitt to you; but he doesn't look like my Brad Pitt to me. If there were only one Brad Pitt that everyone saw in the same way, this kind of thing couldn't happen. But actually we each see Brad Pitt a little differently.

Or, we're leaving a restaurant and you say, "Can you believe how rude that waitress was?"

And I reply, "I thought she was fine! She wasn't rude to me." Same thing applies - I perceive the waitress one way, and you perceive that same waitress in a different way - because we are experiencing the waitress in separate holograms.

And we all know that 10 different people can have 10 different stories of how an accident happened.

Now these are small, minor examples, but our mental hospitals are full of people who see a **very** different "reality" than the rest of us – so different that they cannot handle it, and neither can society handle them.

So each individual must have their own unique hologram they are projecting – their own "private reality" – especially since we each have an individual brain receiving our own personal holographic downloads. Besides, if there were one giant hologram we are all part of, it would mean there would be an independent, objective reality "out there," and all the experts say that's not true.

"There is no 'out there' out there… there's no 'out there' out there."

There's an old New-Age saying: "You create your own reality."

While this is technically NOT true, what IS true is:

You are projecting your own unique holographic 3D experience that has been downloaded from the Field to your brain.

It's time to pull together everything we have learned in Parts One and Two of this workshop.

We started with the Double Slit experiment, and we're going to end that way as well.

Remember physicist Richard Feynman has been quoted as saying that if you really understand the Double Slit experiment, you can understand all of quantum physics.

So let's see what see what the Double Slit experiment says about the existence of an independent, objective reality "out there"….

This time listen to physicist Thomas Campbell from December of 2011….

One quick note…. Dr. Campbell is going to use the words “diffraction pattern” instead of “interference pattern” that we were using in Part One. Basically, they’re the same thing….

This is the Double Slit experiment. It's a very famous experiment. This experiment has probably been done more times, more places, by more people than any other single experiment in the history of science. And it's because it gives such strange results that everybody wants to do it and see if it works like that for them. So this has been replicated over and over and over again, and whenever done properly it always gives the same results. It tells us something very important about the nature of reality. Here's what happened, and I'll show you why it's such a famous experiment.

“Early on we knew that when waves come to this barrier - we have a barrier with a hole and then more barrier and a hole (it's called a slit, and since there are two of them it's called a "double slit" which is where the name of the experiment comes from) - that if a wave came here, some of the wave would go through this slit and some of the wave would go through that slit, and the distance from here to here is a little shorter than it is from here to here, right? We can see that. That's pretty obvious.

“If that difference in distance turns out to be like this - so the wave coming from the top slit and the bottom slit are shifted in distance one whole wave length - then they both dip at the same time and they both crest at the same time, and you get a spot of light there. But if they happen to be just that difference in distance where one gets to a peak just as the other one gets to a trough, when you add them together you get nothing. That's why you get nothing there. So what happens is you get this series of spots - it's called a diffraction pattern - when you have waves going through the two slits.

“So they did this experiment with the Double Slit. They found a way to just fire one photon at a time at the slits - a particle. What they expected to see was this. What they saw was a diffraction pattern. Okay? Now, that was a surprise. They didn't expect that. So they said, "Well, there's something funny going on here at these slits." So these little red things are detectors. They said, "We're going to put detectors there at these slits and we're going to see what's going on."

“And they did. They detected every time a photon went through this slit. The detectors would say, "That went through the upper slit," or the detectors would say, "Went through the bottom slit." And whenever they did that, they got this pattern.

“So now the problem was, "Hmmm. We take the detectors away and you get this pattern." Then the idea was, "Those detectors... they're doing something there." But they found out - and these are called "quantum erasure experiments" - they found out that you could take this data with these detectors, take all the data - the detectors are working, tells you exactly which slit each photon goes through - but you don't look at this data and you don't look at that data yet. You just take it.

“Now if you look at it, you'll get this. But if you don't look at it, and then you erase this information of which slit they went through, you get this again. You see? So obviously reality is not objective. That's the Double Slit experiment, and that's why this is such a big deal, because it shows that reality is not objective. There's something else going on here.

“Of course, most of the physicists looked at that and said, "Huh?" It didn't really make intuitive sense. But in fact this turned out to be such a powerful method that it turned into quantum mechanics. And this is the basis of quantum mechanics - it's that particles aren't really little massy particles, they're just probability distributions.

“And what happens here is that when you measure that a particle came through here, what physicists would say is that the measurement causes the probability wave to collapse to a physical particle. That's the way Bohr would have said it, or Heisenberg. So what happens is that the idea that you measure it here makes this probability distribution turn into a particle. Once you have a particle, the particle can do nothing but what particles do, which is travel in a straight line.

“Now there's another thing... You often here in physics about "the measurement problem," and that's what they're referring to - that "measurement" creates the particle. Okay. The key ingredient is neither consciousness nor measurement, though both are involved. It's the availability of information. It's the availability of information. If you have information about which slit a particle went through, then you know that there’s a particle there. That means it has to act like a particle.

“If you don't have any information about which slit it went through, then there's not a particle there. You don't know that there's a particle, because you haven't measured one. If you don't have that information, then you get this.

“What's going on here is that you have a virtual reality based on information. That's what we want to talk about.

“Well, I will give you a little experiment that I'm going to make up. This is not an actual experiment I'm going to tell you. This is just a logical equivalent so it's easy for you to follow and understand. Actual physics experiments are very complicated and they're very hard to explain, but this is, like I say, a logical equivalent.

“Let's say that we take 102 of this experiment. In other words, we're going to measure what slit it goes through, and then we're going to keep track of what happens over here on this screen. And we're going to do that just 102 times. We're going to take data for an hour.... put that in the computer. Take the data again for another hour... put that in. And what we'll do is the first one, we'll take this data and put it in an envelope and call it Detector Data Experiment 1, and we'll take this and put it in another envelope and call it Measurement Screen Data Experiment 1. Put those two envelopes into a big envelope and call it Experiment 1. You with me on that? So I've got an envelope that says

Experiment 1, and inside that I've got two envelopes, one of them says Detector Data for Experiment 1, the other one says Measurement Screen. So I've got all my data in here. It's just an easy way for us to keep them straight.

"So we're going to do that 102 times, and because we're doing this experiment, we always expect that as the result. So after we have 102 of them, we look at the first one we did, and we take this data out of the envelope, and take that data out of the envelope, and this is exactly what we see, just what we expected with the experiment we're doing.

"And then we take the last one we did, and we do the same thing. We want to make sure they're the same on both ends. So we do that, and we get exactly this... we get the two spots of light here... is what we get. So the first and the last ones are like that, and we assume all the ones in the middle are like that because they were all done together.

"All right. But what this delayed quantum erasure means is that.... Let's take the 100 envelopes that are left, right? We got rid of Number 1, the first one and the last one, and now we've got 100 left out of the 102. We'll take those 100 and we'll shuffle them, we'll randomize them up, and then we'll deal them out into two piles of 50. Now, one pile of 50, we will look at them. We'll take the envelopes out and look at them, and every one of them - all 50 of them - will look just like this. We have the two spots here.

"Now the other 50, we'll take out the Detector data of each one of the 50, put them in a pile and set fire to them. We're going to burn them, we're going to destroy them. That's our erasure experiment, okay? I'm making a very simple concept in the erasure experiment. We just burn them and destroy them. And no, there's not still readable in the ashes. We'll take the ashes and put them in water or something - don't complicate the experiment - we're just going to burn them, that's going to get rid of them, and they will be erased. And then, we'll open up these envelopes, and every one of them will be a diffraction pattern. You see? That's what I mean by a delayed quantum erasure experiment.

"And you're thinking, how could that happen? You see, the experiment was done, let's say a year ago, before we took these envelopes out and showed them. It doesn't matter. Or 10 years ago. The amount of time is irrelevant. In these experiment they're actually done like 10 nanoseconds. But it doesn't matter. If you can do it in arrears, you can do it at any amount of time.

"So that's why this is 'weird science.' It looks like, depending on what you do with this data, you make this change from this output to that output. Right? That's what it looks like. But that's just because you believe you live in an objective reality, you see? In a statistical probability reality, this is still indeterminate... it still hasn't happened yet, because you haven't looked. You see? You don't know what it is.

"In an objective reality, you know, because you did this experiment, that's what it had to be. So you believe that's the way it is, and then you somehow magically changed it to this.

Well, there's no magic involved. It's just that because this data hasn't been looked at, it doesn't really exist yet in this reality. Because we live in a probabilistic reality.

"I know you're thinking, "Oh, that sounds impossible." But that's because you are ingrained from your culture with the concept of an objective reality. You believe that's the way it is, so when you see this or hear about it, it just doesn't make sense. Just like the world being round didn't make sense."

Let's make sure we all understand what Thomas Campbell just said. He said that we have to actually look at – to observe – the measurement data taken at the two slits in order to get a particle pattern as a result. If we don't look at the measurement data - if we erase that data without observing it - then we get what he called a "diffraction pattern" - which Captain Quantum called an "interference pattern" in Part One.

In other words, apparently it's not the act of measurement at the double slits that matters. The only thing that really matters is whether we look at the data we collected. If we look at the data, we get a particle pattern as the result. If we don't look at the data, we get an interference pattern that waves make, even though the data was collected.

If there were some independent, objective reality "out there" we all share, the result of the Double Slit experiment would be the same all the time, regardless of whether someone looked at the data or not.

What we have instead is a totally dependent, subjective holographic reality that is unique for each individual and based on their observation. In other words, what you are seeing right now – and every moment you are alive, without exception – is a holographic 3D total immersion movie written uniquely for you, downloaded to your brain, translated into the holograms you see, and projected "out there" for you to experience.

Listen to Dr. Amit Goswami very carefully one last time...

"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…"

If all of this is true, and the latest scientific research says it is, the question then arises:

Who or what is choosing certain wave frequencies from the Field and downloading them to a human brain to be converted into particles to become the reality we see and experience?

Or…

Who or what is writing the script for the holographic 3D movie you are now – and always – immersed in?

Who or what is the "laser" that chooses the holographic 3D total immersion movie to download to your brain for you to experience as your "reality"?

We will answer that question in Part Three of this workshop series…

…and I guarantee the answer will surprise you and shake your most fundamental beliefs, like discovering that the Earth is actually round!

Meanwhile, your "homework" – what I want you to do in preparation to watch Part Three – is…

1. Watch the movie called *The Truman Show* (with Jim Carrey, 1998)

And…

2. Practice seeing the world "out there" as a hologram **that you are projecting**, rather than as an independent, objective reality that you are merely perceiving and interacting with.

Once you have done your homework, please visit

www.holographicuniverseworkshops.com

for more information about continuing with Part Three of this workshop series.

In the meantime you can download my free ebook, *Butterflies Are Free To Fly: A New and Radical Approach to Spiritual Evolution* by visiting http://www.butterfliesfree.com