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Lecture #4

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PROFESSOR: What we've been doing is sorting out the misconceptions about quantum physics, because quantum physics is used to justify just about every thing, as a pseudo-scientific explanation with no real logic. People just say, in response to the questions "why does homeopathy work" or "why does mind-body healing work", their answer is "Well, it's quantum physics, of course, because there's some particles, and there's a leap, and there's a wave function that collapses, and there's a Heisenberg uncertainty principle which means that everything in the universe is uncertain, and so everything in the whole world is an illusion, and so what that means is everything is the way we say it is. [Lots of Laughter (LOL)] That's called the "because we say so" explanation.

LAURA: That's like when I teach English grammar, it's "just because!" [laughter]

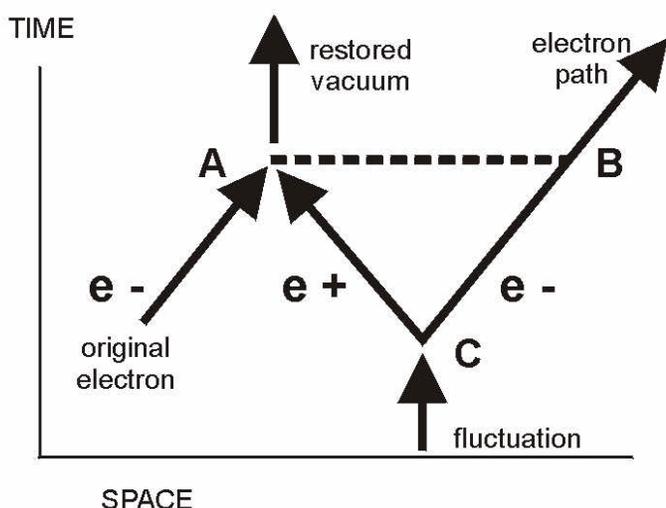
LARA: I have a question. In that chapter of the textbook, you're explaining a quantum leap in a physical vacuum, and it's pretty easy to understand from the diagram, but I have a question about the definition there...

PROFESSOR: OK, let me introduce that first, because we get into the details of your question, because we're right there.

The next principle, that's used to justify everything without any real basis, is this idea of the quantum leap. It sounds really high-tech, but I think it's worth taking a moment to understand "what exactly is a quantum leap?" Well, the quantum leap is - [dramatic pause] the description of

how an electron appears to instantaneously jump between two points in space. So we're watching an electron move, and all of a sudden it's gone, and it's somewhere else at the same instant. We see it moving to point A, and it gets to point A, and it's supposed to keep going from there, right? Remember, we talked about momentum? Now, all of a sudden it's somewhere else, at point B, and it's moving with the same momentum in the same direction, at the same instant, and we say "Wow, it made a quantum leap! It jumped!" So now it broke the speed of light barrier, the universe collapses upon itself, and the sky is falling, and everything is a figment of your imagination. Well, not exactly - it really doesn't work that way.

Quantum Leap in a Physical Vacuum



Let's look at the chart called "Quantum Leap in a Physical Vacuum." What happens in the quantum leap is that there is a fluctuation in deep space. A "fluctuation" means a change in something, it can be any kind of event. For example, we all started with pre-matter quantum particles. They exist at a level before things have taken on material form, and these quantum particles can do things. They can move, be stimulated by energy, and so forth. So what can happen - the event which can happen - is that electrical subtle

energy can stimulate the quantum particles to create subatomic particles such as electrons. An electron, by the way, is a negatively charged particle. You remember that they orbit around the nucleus of an atom. But if you create this negative electron, and put that out into the world, you've created more electrical energy - more charge - than was there in the physical world. And that would violate some applications of the conservation of energy laws. This is a perfect example of a fluctuation. So what the universal system does to prevent that, all by itself, is it creates a positron, which is a positive electron.

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Accordingly, the universe creates the negative particle, and at the same time creates the positive particle - its opposite and equal - called a positron. So what happens is there's a fluctuation in the physical vacuum, which is deep space, or protospace, and it creates an electron-positron pair. The phenomenon that we are really observing in the quantum leap, therefore, is that the original electron is moving along towards point A, and there's this fluctuation at point C that creates an electron-positron pair. The positron flies off and intersects at point A, and annihilates - eliminates - the first electron. So now there is no electron at point A. It's gone. This is like an "antimatter" interaction. We just said what happened to the positron, it eliminated the original electron - they eliminated each other - but the new electron created together with the positron at point C is still there, coming from point C, flying through point B. Therefore, at the moment in time, when we just saw the original electron at point A disappear, and all of a sudden it's at point B, it didn't really jump. What happened is we are noticing for the first time, at that moment in time, the presence of that new electron from the positron pair. That, in essence, is what a quantum leap really is. Thus, a quantum leap isn't a supernatural phenomenon of particles breaking the laws of physics. Rather, it's the observation of the results of a fluctuation in a physical vacuum. That's what a quantum leap is.

MIRZA: Can you generalize this, by giving an example of a quantum leap?

PROFESSOR: [At a loss for words] Apparently, in the physics, this is the only example. [laughter] They don't happen in a lot of different situations. They happen in the laboratory when you're trying to figure out the behavior or subatomic particles.

MIRZA: Does the particle behave individually in such a way, or in the aggregate as well?

PROFESSOR: Well, I think we can say that any time that an electron-positron pair is created, and the positron cancels out a pre-existing electron, we can perceive that the electron appears to jump over a distance instantaneously, even beyond the speed of light. But in reality what we are observing is the annihilation of one electron, and the appearance of the new electron from the

positron pair. And that's the whole phenomenon – that's it.

There is only one reason this is significant. It doesn't help us explain any phenomenon. There are no examples. The only reason it's significant is because this has been used to make an argument for what's called the "non-locality of consciousness," which means that consciousness in the universe is not local, but there is a whole infinite universal consciousness, existing throughout all space and time, and by an act of this consciousness, all possible laws of physics can be simply disregarded. And that is the supposed explanation for why anything we can imagine is possible, and is supposedly justified by the so-called "quantum leap."

Many people persist in explaining their practice of psychic healing by describing how they can project psychic "energy," which they cannot define, to a patient's body, and the person is miraculously healed. But we have to explain that, and without explaining that properly, they simply say that there's quantum physics, and there's something called a quantum leap, and the whole universe is just this big non-local consciousness that can exert its instantaneous will in any possible miraculous way, with total disregard for the laws of physics. In the context of this philosophy, they simply claim that "I willed it to be so, and it was so," and that it was a "quantum leap" that happened. That's supposed to be the explanation, but it doesn't actually mean anything. It has no meaning.

It may very well be that there is an infinite universal consciousness that is non-local, but this is not related in any way to the mechanics of mind-body healing, and it still cannot violate the natural laws of physics, because these laws are necessarily the very result of the inherent characteristics of this universal consciousness. This is just a "wild card," catch-all explanation, which stops our investigation too early, offers us no real or useful information, and prevents us from learning the deeper truth about energy-matter interactions.

So the only reason this is significant is because as experts in energyinformatic science, you guys should know [dramatic pause] that a quantum leap is not an explanation and doesn't mean

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anything [laughter], and that's the only reason why it's significant. And, having understood that, you will probably never again in your life even have to think about a quantum leap unless you are explaining why it's not applicable to an event. [LOL]

LAURA: [Profoundly, with a slow, pensive tone of voice] An insignificant significance...[LOL]

PROFESSOR: Now, we'll talk about quantum mechanics. Quantum mechanics is useful and practical. Now, quantum mechanics is mathematical formulations – they're formulas - used to calculate changes of energy in electrical fields and atoms. The development of quantum mechanics as a science led to the discovery of the fundamental particles - those fundamental particles which compose all matter in the universe. So quantum mechanics is formulas that explain the behavior of subatomic particles, and through these calculations they were able to derive, and then experimentally to perceive, the existence of the fundamental quantum particles. That is the "ether." That's how the reality of "ether" was derived separately. The proof was derived from these calculations, and later experiments to verify them.

Here are the actual quantum particles, just so you will be familiar with the names. Of course, there's lots of them, and they're in your textbooks, but I'll focus now on the ones which are most significant. There are two groups of quantum particles. One is called "photons." Photons are quantum particles, which means that they are universal, and are found in the same original form and type in all parts of the universe. Photons carry electromagnetic force. Note that the word photon means "photo," which is light, and light is electromagnetic, so photons carry electromagnetic force. For precisely that reason, they are the most important quantum particles in biofield and energy information exchange phenomena. So when we ask the question "How is light transmitted through the universe?" or "How is energy information exchanged or transmitted electromagnetically?" we can answer that the energy information is literally "carried" by photons, the quantum particles which exist in protospace, in the physical vacuum.

In addition, there are 8 other particles in the second group called "gluons." Gluons carry the force

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that binds protons and neutrons into atomic nuclei. So when we talk about the idea that quantum particles are manipulated by electromagnetic energy, manipulated to come together and to form the beginnings of physical matter, this is done through gluons. So gluons carry the force which brings together the protons and neutrons, and makes them form atomic nuclei. Therefore, gluons are the most important quantum particles for energy-matter interactions.

Really, then, those are the only quantum particles that we can use on a regular basis in analyzing what is happening in different phenomena and events that we can observe. So when we're talking about energy-information exchange, and information being transmitted, and light traveling, and electrical fields traveling, they all involve photons.

MIRZA: What do you mean when you say there are 8 different particles called gluons?

PROFESSOR: It means that "gluons" are a group of similar quantum particles - that's the name of the group - and there's eight of them. They each have slightly different characteristics, but they're all called gluons because all of them are carriers of the force which binds the particles together into an atomic nucleus.

So when we are talking about energy-information exchange, and things being transmitted, the carrier is photons. When we're talking about how energy interacts with matter - either creates matter, or influences matter that has already been created, or maybe changes matter that has already been created - those are all energy-matter interactions that happen because of the gluons.

So it's no longer theory. We have actually identified two specific groups of quantum particles that have actually been proven to be responsible for doing those functions. That means we're all set now - we don't have to make it up, or figure it out on our own - it's established already. As far as the actual particles, then, that's all we need to know.

As an illustration of another modern concept - another misconception that we can deal with - I want to talk about another quantum particle, called an "anomalon." That comes from the word

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“anomaly,” which means something unusual or rare in occurrence. In the late 20th century, there came about a modified version of the Heisenberg uncertainty principle. Now, remember how the Heisenberg principle was really only trying to describe how there are limitations on our ability to measure certain properties of particles. But that was used to justify all kinds of crazy things, and say that everything in the world is uncertain, and a figment of your imagination. We already proved that this was an unworkable idea, and was unsupported by any physics. But now it's worth pointing out that there's a new, modified version of this misapplication of the uncertainty principle, that's being used to justify things in exactly the same way.

Now, the modified version of this theory is that they discovered a subatomic particle called the anomalon. And the reason it's called the anomalon, is because in every different laboratory where it is tested, the properties are found to be different. So there's different laboratories all over the world, and they're doing experiments with it, and every time they look at it, it has different properties, but it's supposed to be the same particle. So they say that the properties of this particle are a “response of the observer.” In the experiments with the anomalon particle, its properties seem to vary with the preconceptions of the scientists, so if they're looking for it to have certain properties, it ends up having those properties. From this, many people concluded that consciousness creates things, and everything in the universe is dependent, and that the particle only exists because we think it to exist. And, disregarding all the laws of physics, if we just think something, and there's an act of cosmic consciousness, everything in the universe can be different, so everything is an illusion of perception.

That was apparently the wrong way to interpret those observations, because looking in the context of the other particles that are not in question - the photons and the gluons - they carry forces. They carry electromagnetic forces. Thoughts are electromagnetic. They come from brain waves, from neurological activity which creates surrounding electromagnetic fields. So if you're the researcher, and you use a particle accelerator or something to isolate this particle - to create or isolate this anomalon - and you're looking at it (or concentrating on it), and you have thoughts about it, and you do some experiments to test it, what is the most likely explanation of the fact that

its properties seem to reflect your thoughts?

Does that mean that you created it? Well, I don't think that we created it, because we used the particle accelerator to create it. It was created, in fact, before we thought of what properties it should have. We should say this: by definition, it was created before it existed for the purpose of us projecting our thoughts to it. In other words, if its properties are determined by our thoughts, and we know that we didn't actually create it because we caused an actual matter-matter interaction to create it, then the particle cannot be a figment of the imagination, and is not a mere "response of the observer."

If the particle does exist, and we have just established by logic that it really does, but its detectible properties always reflect the thoughts of the researchers, than we can properly and reasonably say that the particle does have one consistent property, which we can plainly describe as the property of reflecting people's thoughts! The most likely explanation of the fact that its properties reflect the researchers, thoughts, therefore, is simply that the anomalon is also an electromagnetic carrier, but instead of being a carrier of only pure force, or electrical charge, it may in fact be a carrier for electromagnetic energy *information*. Accordingly, whatever the thoughts of the researcher nearest to it, the anomalon's stable property as an electromagnetic energy information carrier causes it to faithfully carry the energy information that it is subjected to, and such information may even be evident in the behavior of the particle. Indeed, since there are many types of information that must be carried, often in different forms, it may be necessary and appropriate for a particle to exhibit slightly different behavior in order to effectively carry the energy information.

LAURA: So you have this anomalon, and the way you look at it changes everything. That's fascinating.

PROFESSOR: Right, it changes everything. But that doesn't mean that you created it. The most likely explanation is that - just like the photons carry electromagnetic energy information, and

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since our thoughts are energy information - the most likely explanation is that this anomalon is a quantum particle, the function of which is - whose function is - to carry thought information. And if it's that kind of particle, then without violating any laws of physics, and having a perfectly logical explanation, we can say that once it is created, then whatever thoughts the researcher has are carried by that particle, and therefore it changes its properties. So that's what an anomalon is.

Therefore, the anomalon is a *bad* argument for the non-locality of consciousness, but it's a *good* argument for the fact that quantum particles carry charge, and they can carry light, and the force of subtle energy that creates matter, and they can carry thoughts. In other words quantum particles do in fact carry energy information. So the conclusion of all this analysis of the quantum particles and all this physics, is that the only thing which is significant about quantum physics at all - for the purpose of energyinformatic science, our specialized field - is the simple fact that quantum particles do in fact carry a charge in protospace, and that the charges which the quantum particles may carry include electromagnetic mental information energy such as brain waves. We don't have to prove this experimentally, its already established and proven by the previous experiments and observations, because this interpretation is a direct logical construct - or logical conclusion - of the results of other well respected experiments.

The difference between the quantum mysticism and energyinformatic science is this: In quantum mysticism, you say "Aha! There's something unusual there, so that means that everything is relative," that everything is wishy-washy and flexible like a wild card. The ideas of "uncertainty," "non-locality," and "response of the observer" are really totally un-scientific ideas, merely expressed in formal sounding language, which really mean that something is unknown and presumably unknowable. The philosophy is really "Hey, there's something we don't understand, so it explains everything!" Well, by definition, we can not explain everything with something that we don't understand. We can only explain everything with something that we do understand. Or else it's not an explanation, by definition.

In energyinformatic science, then, we are concerned with what is available in undisputed

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fundamental physics that we can use to explain things that we can perceive. So it's not really our burden to prove that these things are real. The quantum physics is already very well established, so for that reason it's really not our problem. But the quantum particles are there, and they carry charge, and that's what's significant to us. So the only relevant factor from quantum physics is the fact that quantum "force carrier" particles carry electrical charge. The fundamental quantum particles are the universal pre-matter substance through which energy information may travel, through the medium of the force carrier particles. And these quantum particles that carry force can be organized and assembled into atomic particles and physical matter. We also can conclude that electrofield consciousness can be transmitted through protospace - through the physical vacuum - and possibly have some influence upon material objects through the gluons. So those are our essential quantum particles: photons, gluons, and anomalons - the force carrier particles.

And that, my friends, is everything that you need to know about quantum physics - except for what's in your textbooks.

CLASS: Yay!!! [clapping]

PROFESSOR: Now we can get out the Champagne...

LAURA: I'd like to ask you a question, to see if you can explain it. I have a nephew who's physically handicapped. When he was about 7 years old, they discovered that he had a brain disease, and when he was 14 years old, the doctors decided to do an operation. They said if they operated on his brain, it would stop his fits, and stop his being violent. [Editor's note: in most cases this means seizures and convulsions] So they basically separated a whole part of his brain, cutting away a whole hemisphere, and taking it away. I think they called it a "hemispherectomy." And amazingly, he is the same - he's exactly the same, but with less problems.

PROFESSOR: Well in that case, let's get into this, because the brain is really important.

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LAURA: I just really find that amazing, that you can just take out half of someone's brain and they can remain the same.

MIRZA: Yes, that's a cerebrectomy. You can do it, but it's not the whole half of the brain. Cerebrectomy is just the cerebrum. You can take the cerebrum away, but you can't take the cerebellum, or the pituitary, and other things.

PROFESSOR: Can you tell us, Mirza, what is the theory of doing the cerebrectomy?

MIRZA: Well usually, one side of the brain has more electrical activity, and so they had to take it away, because there is electrical overactivity causing violent and involuntary reactions. So they remove the cerebrum from that side of the brain, because they have to decrease the electrical activity.

PROFESSOR: Let's look really quickly at the chapter on the Masculine and Feminine principles, which really is about the right and left hemispheres of the brain. You are all familiar with the metaphysics principle that the masculine principle is active impulses and the feminine principle is receptive impulses.

LAURA: But basically the hemispheres of the brain share - they do share - skills and functions.

PROFESSOR: That's absolutely correct. So let's get right into the psychology here. The 20th century brain theory is called "selective lateralization of hemispheres," which is a fancy medical way of describing the way that different functions appear to be assigned, or delegated, to different hemispheres of the brain. And this is commonly called the "right-left brain theory." The popular conception of this theory is that the right side of the brain is the creative and artistic side, and the left side is supposed to be the logical and linear functioning side. But in the case of this patient, he didn't lose all logic and linear thinking, he didn't become insane or disoriented. Did he

have any problems conceiving time, or linear concepts?

LAURA: No. He was perfectly normal.

MIRZA: Also, it might not have been a whole cerebrectomy. There is also partial cerebrectomy.

PROFESSOR: Well, Mirza, as a medical doctor and surgeon, what do you think would happen if you really took the whole functional part of the right hemisphere.

MIRZA: OK, if you take the parietal area, that is concerned with activities. If you take the frontal area, it is concerned with your personality, and if you take the occipital area, it is concerned with your vision. So you do lose something, for sure, the skills or functions related to the particular area which is removed. In the case of this patient, it was most probably a parietal cerebrectomy.

LAURA: Well, my nephew had a stroke when he was 7, so he has no functions in his hand and his foot on one side anyway. His brain was diseased.

PROFESSOR: OK, so he was his “old self” after the operation, but his “old self” wasn’t at the level of a perfectly healthy person.

LAURA: Yes, he’s mentally handicapped. He was basically a “guinea pig” for that operation.

PROFESSOR: What we’ve found, though, is that in neurobiology, this idea about the creative/artistic and logical/linear being on different sides of the brain is not absolute. That’s not exactly correct. It’s a little bit different from that. What we do know for certain is that the right brain is actually related to the perception of space, language skills, hearing, and speech. And we know that the right brain is connected to motor functions in the left side of the body. Now the left brain, we do know is related to perception of time, and also affects conceptual and comprehension

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skills, and is connected to the right side of the body. That's what we do know. However, the skills and functions of the brain are mostly shared between the hemispheres. So there is some concentration of some skills, a little more on the left or on the right, but they're not absolute. The functions are shared between the hemispheres.

Just one last note about that. Since there's a connection between the right brain and left body, and the left brain and right body, the bioenergy from the brain can be transmitted outwards through the neurological system, because all of the neurological system is connected to the brain.

Since the left side of the brain has a higher concentration of the active functions, in traditional occult practice when people want to project bioenergy or information energy with their hands, they use their right hand, because the corresponding left side of the brain has more control over activity - doing something, moving energies. So by using the right hand to project energy, the energy is flowing in the right direction along the right pathways through the neurological system, and so the energy actually comes out through the nerves of the hand, and usually out of the palm of the hand.

Mirza, why don't you explain to us the nerve structures in the hand, to help the class understand from a medical perspective?

MIRZA: Half of the hand is connected to ulnar nerve, and the other half of the hand is connected to the median nerve. These nerves control the fingers and small muscle movements. The ulnar nerve travels along the inside of the arm, and the median nerve travels upwards through the center of the arm. The median nerve controls half of the hand - both front and back - the half with the thumb on it. That's the median side of the hand. The ulnar nerve controls both the front and back of the other half of the hand - that's the ulnar side. The whole hand is also affected by the radial nerve, which travels along the back of the arm and back of the forearm.

PROFESSOR: To see how this is significant to bioenergy systems analysis, let's look at this medical chart of the nervous system and spinal column. The median nerve and ulnar nerves travel from the hand, upwards through the arm towards the spinal column, and enters the spinal column at the T-1, C-8, C-7, C-6, and C-5 vertebrae. This is towards the top of the spinal column,

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in the neck area. The radial nerves are connected even higher on the spinal column, at the C-4 and C-3 vertebrae, which is right near the base of the brain stem.

You see, when you are higher up on the spinal column, near the base of the brain stem, there is more energy information exchange with the brain. In other words, the brain sends more mental energy - more bioenergy - through those nerves, partly through direct transmission of nerve impulses, and partly through subtle magnetic induction. Magnetic induction happens mostly with the nerves closest to where the brain is, which are the nerves on the top of the spinal column, so those nerves carry the most energy information.

Now let's consider the significance of the right-left brain theory. All these nerves in the hand are connected to the brain, particularly the hemisphere of the brain which controls motor functions in the side of the body where each hand is located. The nerves in the hand, in particular, are connected to the top of the spinal column, and their connecting vertebrae are physically closest to the brain. What that means is that those nerves carry the most information energy from the brain - from the corresponding hemisphere of the brain - all the way down to the hand.

MIRZA: I don't understand how being closer to the brain makes any difference. If you prick a needle at the foot and a needle at the shoulder at the same time, it will take exactly the same time for both pain signals to reach the brain. It does not make any difference which nerve is closer to the brain. Then would we say that an artery which is nearer to the heart can take more blood, or a blood vessel which is closer to the lungs can take more oxygen? I don't think so.

PROFESSOR: Well, you are talking about the response time of a signal working backwards to the brain. But the difference in how close the nerve is to the brain has nothing to do with pain response. What we're talking about is how bioenergy information from the brain can be transmitted through the nerves.

MIRZA: I see, but I'm interested in the time and the force of how bioenergy travels.

Bioenergy will take the same time, and carry the same force, throughout the body, because that is how the nerves deliver signals.

PROFESSOR: That may be so, but the issue here is not the mechanics of how the signals are carried through the nerves. They are carried, and it makes no difference how fast or how strong. What is important in this analysis is the source of the signal. The phenomenon we are analyzing is the experience in bioenergy research, observationally, that there is a very strong indication that mental energy is most clearly transmitted through the hands. Proximity to the brain makes a difference in explaining the source of the signal, regardless of how the signal is then carried by the nerves.

This makes sense because the brain generates an electrical field containing energy information. All electrical fields radiate outward from the antenna - in this case, the brain - and the field strength is inversely proportional to the distance from the antenna. In other words, the closer we are to the brain, the field is stronger, and there is more energy information. The further we are from the brain, the field is weaker, and there is less energy information. Now consider that when a nerve or connecting series of nerves is placed within an electrical field, they will be subject to electromagnetic induction, whereby the energy information in the field will be magnetically induced into the nerve, the same way that an electrical field induces a current in a wire. But if the wire is outside the field, it will receive less current, or no current at all. Therefore, we can reliably conclude that the nerves which will carry the most quantity of bioenergies from the brain's surrounding energy information field, with the strongest force and clarity, must be the nerves which are physically the closest possible to the brain. Since the nerves which are closer to the brain than any others are the nerves from the hands, it follows that by magnetic induction, the nerves in the hands must carry the most energy information from the brain, and thus the most "mental energy."

MIRZA: In that case, I should also point out that there are two senses in the hands - motor senses and tactile senses. The tactile senses are related to touch - heat, cold, pain - and motor senses are activity and movement. So we are not talking about only connections for motor control.

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Nerves are the same, so there are many nerves in the hand - both motor and tactile - which can carry energy information. Also, the hand is the most skilled system of the body, performing highly detailed functions.

PROFESSOR: What does that mean neurologically, in terms of the skilled functions of the hand?

MIRZA: That means that the nerves in the hand are more precise, more refined. You can say that they are better carriers for complex signals. Better responses can be carried through the nerves of the hand, because of their refinement.

PROFESSOR: So you think that the energy from the brain, since it's connected to all parts of the body equally, would be transmitted along the whole side of the body, but the quality of information would be better in the hand.

MIRZA: Yes, so the energy information from the brain is most easily detected in the hands because of their skill.

PROFESSOR: Considering the fact that the left hemisphere of the brain is connected to the right side of the body, since the hand is the most refined carrier for detailed complex energy information, if we look at the right hand, and read the energy information that's there, we will get the clearest picture of what energy information is coming from the left side of the brain.

MIRZA: OK, I agree with that. But the selective lateralization of hemispheres is not a hard and fast rule. Some people who use more skilled functions in their left hand, their right hand appears more enlarged, more developed. There are people who write with their left hand.

PROFESSOR: Sure, let's talk about left handed people. What do you think is the effect of that?

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MIRZA: The right cerebrum is more developed. For right handed people, our left cerebrum is more developed. There is a difference between the mass of the cerebrum.

PROFESSOR: So that's related only to the motor parts of the brain, and not the psychological parts.

MIRZA: Of course.

PROFESSOR: So, in other words, writing with your left hand will cause more highly developed motor control areas of the brain, but the parts of that right hemisphere of the brain that are involved with perception of space, language skills, hearing and speech will not be affected.

MIRZA: Correct.

PROFESSOR: Now here's the next part of our analysis. The right side of the brain, which is the more receptive in function, connected to the left hand, is favored for receiving energy information. So because the right part of the brain has a higher concentration of receptive functions, the left hand, specifically those nerves in the left hand, can be used as "antennae" to receive energy information.

MIRZA: In fact, in medical practice, if you don't have a thermometer, and you want to see the temperature of the patient, you place your left hand on their body, because it's more tactile, and more sensitive to detecting the information you need.

PROFESSOR: So even in conventional medicine, the left hand is used as a sensor to receive information.

MIRZA: Of course, and it is best for detecting the pulse, as well.

PROFESSOR: While that works physically, for reading a person's temperature, it also works in the subtle world, for using those nerves as antennae to receive electromagnetic subtle energy. According to what we just resolved, this works independent of whether you say you're left handed or right handed, because that only has to do with your motor skill development, and how you control your muscle groups. But we're not talking about muscle groups, we're talking about the nerves as transmitting antennae and receiving antennae. So regardless of which hand is predominant for motor activity, the left hand is still the receiving antenna, and the right hand is still the transmitting antenna.

The reason that this is important, is because there are really only two ways we can work with subtle energies as human beings. One is to use alpha state, which we'll explore later, to "tune in" using the pineal body of the brain, and the other way is to "feel" energy with our hands, using the nerves in the hands which are highly refined as antennae. If we want to work with the energy to do healing, we need to project that energy - also through the hands, because that's the best channel for transmitting energy. And that is the same whether you are right or left handed.

That is also the difference between diagnosis and treatment. If we want to feel the patient's bioenergies, and diagnose them, then we must use the left hand to feel that information. In practice, we will feel that as electrical "tingling" sensations in the nerves of our hand. Then, when we want to give a treatment - to project energy, to do something to this patient, or to manipulate the bioenergies of this patient - we must use the right hand to project that energy.

There is also another alternate way that this can work. The reason that we need this alternate way of reading the bioenergy from a patient is because of a problem, a danger to the healer from using the left hand to receive this information. The issue is, when you put your left hand on a patient, or near a patient, you are receiving their information energy, and that goes directly to the right hemisphere of your brain. Perhaps it doesn't go exclusively to the right hemisphere, but mostly to the right part of the brain. So when you are reading information from a patient using your left hand, that bioenergy is going into your own bioenergy system. The bioenergy from the patient is,

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by definition, “illness energy.” It is energy information - waveforms, frequencies, and pulses that are characterized by illness. When you feel that with your left hand, that can go into your own bioenergy system, and by magnetic induction, or by just direct transmission, can cause illness in your own body.

So there is a danger, a risk, as a bioenergy healer diagnosing patients. Fortunately, it turns out that there is another way to do this. With the right hand, it's not the receptive side, in function - it projects bioenergy. But, there is a way we can use the right hand to “feel” the bioenergies of the patient, and it works like this: The patient's bioenergies are radiating out of their body, and the electrical fields have shape, texture, and other characteristics, and their pushing outwards. Now, you are projecting your own bioenergy with your right hand, and that's radiating out of the nerves in your hand, and pushing outwards. When you put your right hand a few inches away from the patient's body, both of the different bioenergy fields are pushing against each other, and there's an interference pattern. Although, you can't perfectly clearly read the patient's bioenergy directly using your right hand, because the signal is corrupted by your own bioenergies coming out. However, you can learn - train yourself - to feel the interference between the two. So when the two fields interact, you can feel the difference between your energy and their energy. It's an interference pattern. And that interference pattern will feel differently to you than if you read the bioenergy directly with your left hand.

We talked about how when you're learning to feel these subtle energies, it's like learning a foreign language and building a vocabulary. You have to feel, for example, a high blood pressure patient, and feel different psychological disorders and feel various bioenergies associated with known diagnoses. Then, you eventually learn: “when I feel X, it means X disease,” and “when I feel Y, it means a different disease.” So you build a vocabulary. If you want to use both of your hands alternately for receiving bioenergy information, for example if you want sometimes to use your left hand to do a more direct reading only for family members and close friends, you're going to have to learn that vocabulary all over again for the other hand, because the direct original bioenergies in the left hand will feel different than the interference pattern which you will feel in your right hand.

So the feelings are going to be different.

It is recommended, in general practice in bioenergy healing, when you develop your skills, to use exclusively the right hand for feeling the bioenergy of patients. But in this case, when you are using the right hand as a receiving antenna, you are not consciously, willfully projecting energy outwards. You are trying to feel it. So you put out your right hand, you're relaxed, and you're trying to feel whatever "tingling" sensations you feel in the nerves of your right hand. So build your vocabulary using the right hand, and you'll always use that. That way, because your energy is flowing out, the patient's energy cannot flow in, and there you have a defense against receiving any of the illness energy.

So the left hand is the best receiver, but use the right hand instead for medical and psychological healing purposes. For personal and spiritual purposes, such as interacting with nature, engaging in energy information exchange communication with animals or plants, or anything that is not usually related with disturbances or illness, or any time you want to actually take subtle energies into your bioenergy system on purpose, you can use the left hand. Also, when you are reading an object, it is fairly safe to use the left hand. So I would recommend that you build your vocabulary for reading objects - doing what's called psychometry, reading jewelry and so forth - build that vocabulary using your left hand, because you will get the best information, and the clearest signal. You will be able to read deeper, into deeper levels of the object, and get more information. But when you build your vocabulary reading energies in medicine, always use the right hand.

You should also remember, if you use your right hand to read an object, that objects retain energy imprints very lightly, and it doesn't take very much in most cases to erase some of the information that has been imprinted in the object. So if you use your right hand to read an object, you are likely to be erasing some of the information at the same time as you are trying to read it. So always read objects with the left hand, and always read medical patients with your right hand. Those are the basic rules, and that is the significance of right-left brain theory in energy medicine.

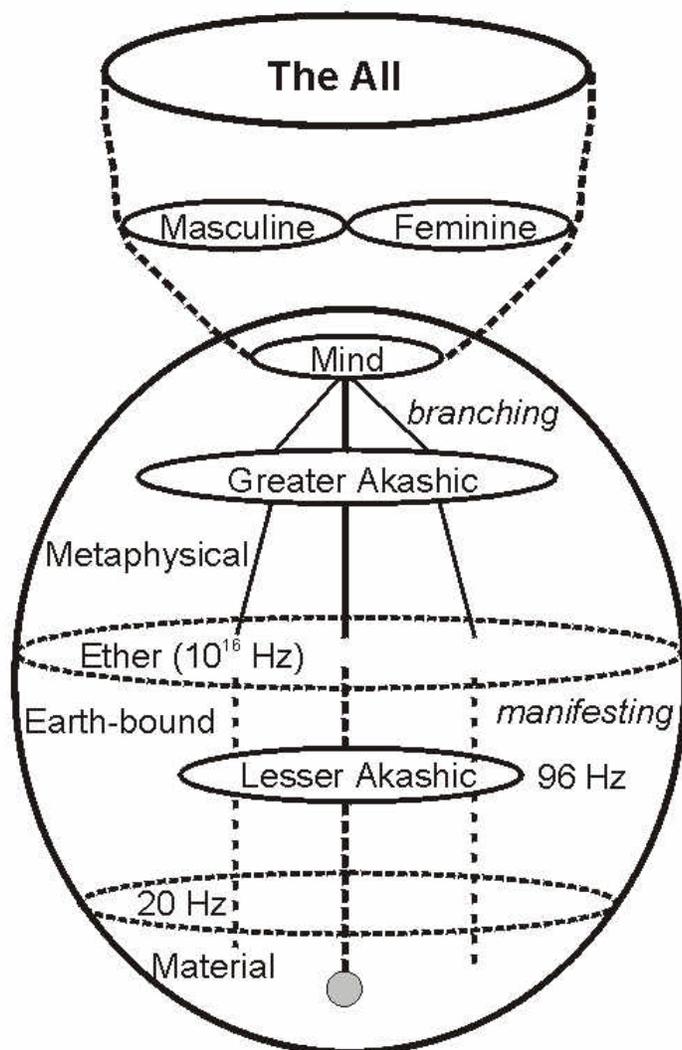
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LAURA: I have a question. When reading objects by psychometry, does it make a difference if it's made of a certain metal or stone or other material?

PROFESSOR: Yes, it makes a very big difference. We'll have to get to that in detail in the psychometry chapter, because we'll look at atomic structure, and we'll really look at exactly what's happening inside of an atom. That's my favorite chapter. OK, so we're done with the right-left brain theory.

Now, let's review really quickly the map of the universe. Let's turn to the map in the textbook, and make a couple comments about that. So, by learning to control the pineal body, one can adjust the frequency of consciousness which the pineal body will receive. That is how you "tune in" to different frequencies, by using the pineal body. The pineal body is the tuning mechanism, like the dial on the radio which adjusts which radio station you are listening to. So by adjusting the frequency of consciousness which the pineal body will receive, you can interact with different planes of existence.

Now the planes on the map are arranged from top to bottom, according to frequency, from the lowest frequency on the bottom to the highest on the top. This is useful for looking at the different planes of existence - the different frequency ranges - and looking at how they interact with each other and how they overlap. But it's important to remember that in reality, all of them are in fact collapsed into one level. They're all at the same level. They are at different frequencies, and different theoretical levels, but nothing is actually "higher" or "lower" in real space. They are all collapsed into one "here and now" - one continuum. So everything is "here and now," and none of the levels are actually "higher" or "lower" than the others in the physical and spatial sense of the words. So every plane in the universe can be accessed from any other part of the universe, by simply adjusting the frequency of one's consciousness - the frequency that the pineal body is tuned to - to be sensitive to the appropriate energies and vibrations of the frequency plane of existence that you want to work with.



Now, then, for the first time we have a full overview of the universal system. We can point out that the ether, which is placed at 10 to the power of 16 hertz (10^{16} Hz) here on the chart - that is an abstract theoretical frequency of the quantum particles. In reality, they can probably vibrate at just about any frequency at all, and as they interact with subtle energies at different frequencies, most of them like the photons, gluons, and anomalons, are going to reflect and perhaps “mirror,” or match, the frequency of the subtle energy. I labeled it here on the map as 10^{16} Hz, but we don't think that they actually exist at that frequency level. They can exist at all levels. But the reason I put it there, is because it's a good place on the map between the earthbound plane and the metaphysical plane, to show visually how

the quantum particles play a role in mediating between the two planes - the physical and metaphysical planes. The reason I picked 10^{16} Hz is because that is the level of X-rays, and X-rays are the very beginning of energy that can pass through physical matter. So I figured that since they are pre-matter quantum particles, and their existence theoretically marks the point where energy can start interacting with matter, I decided that X-rays would be a good place to illustrate that, just so that visually on the top to bottom scale of frequency, we can see visually how that plays a role. So that's quantum particle ether there at the level of X-rays at 10^{16} Hz.

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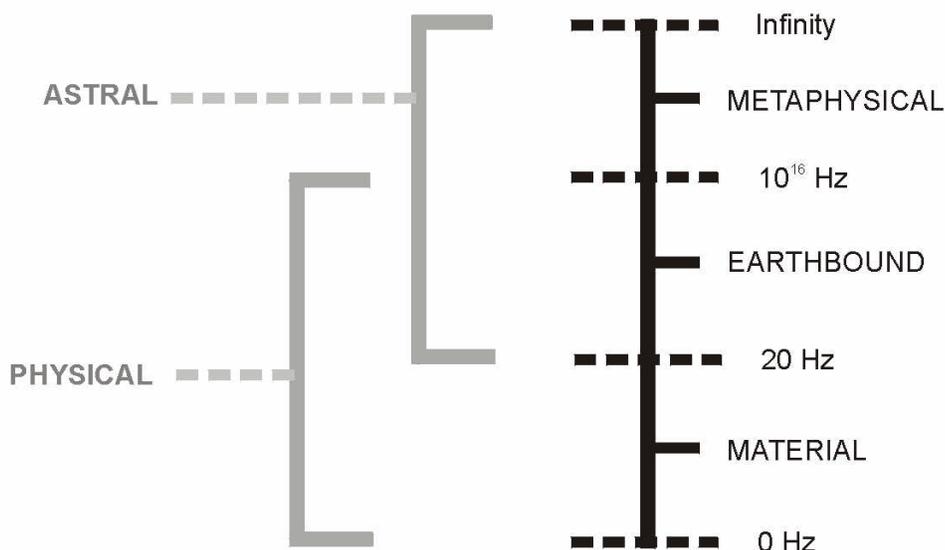
I want to emphasize that the quantum particles do not need to have any fixed frequency plane of existence. They represent a point of energy-matter interaction, and they are actually not confined to any one plane of existence. They are available on all planes of existence.

Next, the lesser Akashic Record is marked here at 96 Hz. The reason I picked 96 Hz for the lesser Akashic Record - that's the smaller copy of the hologram that is within us - 96 Hz is the experimental data for the activation frequency of the pineal body. So when we have a stimulus of 96 Hz - or an appropriate resonance of that frequency - the pineal body comes alive, and starts being highly receptive to electromagnetic stimulus. It can also project the same way, and we'll develop that in other chapters. So I put the lesser Akashic Record at 96 Hz, to show its relation to the pineal body which is necessary to access it.

Also, the division between the material plane and the beginning of the earthbound plane is placed at 20 Hz. I chose 20 Hz because that is the beginning of sound vibrations, just at the beginning of the point where you begin to leave the realm of physical matter. So the numbers on the map are related to experimental data, but they are not absolute. They are illustrations used to locate those concepts somewhere on this map, from top to bottom, but it so happens that where they are placed on this map, according to that frequency distribution, visually makes a lot of sense. This is a really good map if you're looking at different interactions between different planes of existence. It's really useful to refer to this map, so you can get a visual, intuitive idea of where things are in relation to each other.

Now let's take a look at the chart called the Planes of the Universe.

The Planes of the Universe



MIRZA: It's exactly the same.

PROFESSOR: Basically, it's exactly the same. On the right hand side of this chart of the planes of the universe is the same terminology that's used on the map of the universe, which is the metaphysical, earthbound, and material.

We have this extra chart here just to show that there's a distinction in terminology. When we say "astral," it means both the earthbound and the metaphysical, together. When we say "physical," it means the earthbound and the material, together. So there is an important overlap in the planes, and this is to help you sort out the terminology.

Before we move on to another chapter, I want to make one more point about quantum physics. I was talking to a Russian physicist, Eugene Martynovich, and we were talking about quantum physics, and how that can be used to support the idea that the universe is a continuum. Remember when we were talking about the idea of dimensions, and we concluded that this arbitrary idea of dimensions is an unworkable concept - it's not real, and everything is a continuum because of conservation of energy. Well, this conservation of energy has an application in quantum physics. There are a couple of other groups of quantum particles called quarks and leptons. Each quark and each lepton has an anti-particle, sometimes referred to as "anti-matter." The anti-particles are identical to the particles, except that they have the opposite charge. That's like the electron-positron pair that we looked at in the quantum leap. When a particle and anti-

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particle collide, they annihilate each other, and are transformed into energy, because when matter is destroyed, the energy that is behind that matter comes out. That's the Einstein theory, by the way, $E=Mc^2$, that behind all matter there is an amount of energy. So when the particle and anti-particle collide, they destroy each other - cancel each other out, and are transformed into energy.

The total number of quarks, and the total number of leptons, in the universe is constant. In fact, quantum physicists believe that all of the quantum particles are somewhat fixed in number throughout the universe, because the universe, as an integral whole, must consist of a fixed amount of energy. Because of the Einstein equation, every time that energy creates matter, the amount of matter created is limited by the amount of energy available to create it. Actually, that is not the most direct analysis here, because quantum particles are not matter, they are pre-matter, or fundamental pre-matter particles. So there is a total fixed amount of energy, and a total fixed amount of quantum particles which is probably directly proportional to the amount of energy. Whether those particles are created using some of that energy, and thus proportional to that amount of energy, we don't know. That's an open question. But that doesn't change our analysis right now.

In any case, the total number of quarks and leptons in the universe is constant, so quarks and leptons are created or destroyed only in particle-antiparticle pairs. Well, that would indicate that they are created from energy, then, doesn't it? Because even if they're pre-matter, they still have to be created from energy. And that would explain why they are in particle-antiparticle pairs, because of the conservation of energy.

So the number of charge carriers is not conserved. However, the total charge is conserved. That's interesting. So because they are created in positive and negative pairs, then Eugene says that there is no limit in the amount of quantum particles. So that means that the number of quantum particles is not limited, it's only the amount of energy which is limited. So you can have an infinite amount of quantum particles that can fill the whole universe, in all its dimensions and space. Even with the "big bang" theory, with the universe expanding outwards, there can be

created enough quantum particles to fill all of that space, no matter how infinite it may be, with no problems. And the reason it doesn't use up that energy is because they are created in particle-antiparticle pairs, that can cancel each other.

LAURA: That's so interesting...

PROFESSOR: Sure, because if you need to create extra energy, that you can't have, you have to have the negative part - the opposite - of that energy, the "anti" energy that can cancel it out, and balance it during its temporary existence. So that's how we fill the universe with quantum particles. Very interesting.

The number of charge carriers is not conserved - there's no limit. However, the total charge - the energy behind the quantum particles - must be conserved. Therefore, quantum carrier particles, like photons, gluons and anomalous, can be created or destroyed wherever there is enough energy. So all you need is a fluctuation in a physical vacuum. That is why it's not called an energy-matter interaction, and that's why they're called pre-matter, because they're not even a manifestation of energy, they're just a manifestation of a fluctuation in a physical vacuum. It's just something changing, fluctuating, in deep space, with nothing else there, and all of a sudden these things are just sort of created out of nowhere. But they're not actually created, because they are kind of half created, and half un-created, because they can cancel each other out. So they can be either created or destroyed by a fluctuation in a physical vacuum, wherever there is enough energy to cause the fluctuation.

Now, the reason that this proves that the universe is a continuum, is because it's an illustration of how the universal system makes use of a finite amount of original subtle energy. The laws of physics show that everything behaves in a way that conserves that limited, fixed quantity of energy. That's why we can't have a million universes, or copies of the universe, or different dimensions. There isn't energy for that. There is one universe with the same fundamental quantum particles everywhere, together with their anti-particles, and a fixed amount of energy that

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can be used to manipulate those and take on tangible form. So when we create something in the universe - physical matter - we have used up some of that energy. That's the Einstein theory. That "E," energy, from the Einstein equation is behind that "M" which is matter.

Also, what a continuum means, is that things have to be created and destroyed within the same system. The first example of this is the particles and anti-particles in pairs. That's one thing that makes the universe a continuum. Another thing is when physical matter is created, it can't exist forever. Even a rock, after many centuries, disintegrates, and eventually its energy can be released back into the universal system. So things have to be created and destroyed, even physical matter. We can't just create and create, for all of infinity. And there's a certain point in the universal system where after all the energy is used up, before anything new can be created, something has to be destroyed to free up that energy. So that is why there is a cycle of creation and destruction and recycling for new creation, all within the universal system. That's also what makes it a continuum.

Accordingly, aside from the simple fact that quantum particles carry charge, and can carry energy information and information energy throughout the universe, quantum physics also supports the idea that the universe is a continuum, and thus is not dimensional by nature. Now we're done with quantum physics.

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PROFESSOR: Did everybody read the chapters on The Nature of Consciousness and Thought Forms? [Whole class affirmed they had read them.] Great. In that case, I'll just touch on the basic definitions, and I will rely on you guys to ask any questions about it.

Consciousness, actually, has a concrete definition. Consciousness is the level of interaction with the environment, and it has two factors: (1) the range of sensitivity to possible stimulus, and (2) the

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range of possible responses to that stimulus. That is what consciousness is. So if we're trying to describe the consciousness of anything, whether it's objects, plants, animals, even spiritual entities of electrofield consciousness - mental entities, we say - then we can describe the consciousness and even measure it using this definition. So, if the question is "does something have consciousness?" or "what level of consciousness does it have?" then the answer is how many pieces of evidence we have of its range of sensitivity to possible stimulus, and how many examples we can find of its range of possible responses. The more sensitivity and the more responses, the more conscious it is. A "higher" level of consciousness, then, means having more sensitivity, and a greater range of responses.

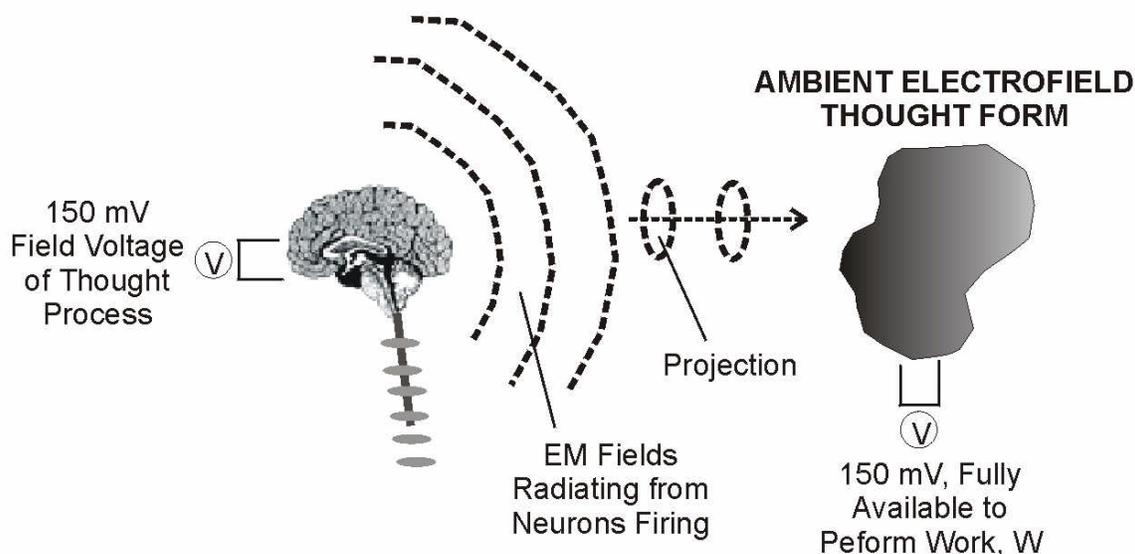
The other definition of consciousness, more technical, is the inherent capacity to participate in energy information exchange with the environment, which gives rise to a third factor: (3) the range of possible environments, or the range of frequencies or levels of the same environment, with which the subject may interact. That is how we define higher consciousness or lower consciousness.

There is a tendency in metaphysics to use consciousness as kind of a judgment, like "higher" consciousness is good and spiritual, and "lower" consciousness is bad. That can be one way of describing that, but really it's not a question of higher or lower. We can tune in to higher or lower frequencies. If you are a very skilled psychic, and you can tune into higher frequency planes of existence, and you can communicate with spiritual entities - that is, electrical fields floating around that have their own consciousness independent of any physical body - that can be a very spiritual experience, and that can be considered a higher level of consciousness, at least in the sense that it's a higher frequency range that you're interacting with. In other words, you are interacting with an environment that is at a higher frequency range. That doesn't necessarily mean, though, that it's a higher consciousness, because what if you are very very spiritual, and you can access the highest frequencies of the universe, and participate in energy information exchange with the most spiritual and pure and high-frequency entities, but what if that is the only thing you can do? What if you are severely mentally retarded, or even brain damaged, and you can't do anything in the

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physical world, and you can't even see your own family members trying to talk to you, but you can tune into this really high frequencies and have these very spiritual experiences? Should we say that you have a "higher" consciousness than somebody who maybe is totally unspiritual and is totally unaware of the metaphysical world, but who has a Ph.D. and is very highly skilled and can play 21 musical instruments, and speaks 12 languages, and participates in philosophy discussion groups. Who can we really say has a "higher" level of consciousness? It really is relative. But what we can do is classify the quality and quantity of consciousness, based on these objective factors, so that it's not a moral judgment about the character of a person, but it's a technical description of how they interact with their environment. So that's what consciousness is all about.

Let's get into thought forms. I think the key to this is defining brain waves. First of all, brain waves are defined as rhythmic fluctuations in voltage between related parts of the brain, that are produced by spontaneous firings of neurons in response to thought. Thus, a brain wave is this - you have a thought, the neurons fire, and it creates surrounding electromagnetic fields. According to the pulses and variations in vibrations of the neuron firings, the voltage will fluctuate and the shape and form of the field will fluctuate. That is brain waves. They're electromagnetic. Let's look at the graphic in the textbook, the first illustration in the Thought Forms chapter.



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Thought forms are electromagnetic fields formed by brain waves, which have properties that are characteristic of the neuro-electrical activity resulting from the thoughts which created them. In other words, every thought that you have generates a characteristic electromagnetic field. The electrical field, from your thought, has properties that are determined by the nature of the thought that you had. Thought forms can function, interact, and behave as either electrostatic or electromagnetic fields. So all of the physics that applies to electrical fields applies equally to thought forms.

What's interesting is, if you look at this first graphic, you can measure with an antenna just above the head, around the brain, between about 1 to 18 inches away from the brain. You're going to get a good concentration of these thought forms being projected outwards. And when you measure that with an antenna, placing the antenna there, close to the head, you can get an electrical field voltage of approximately 150 mV. That's the average. The neuron firings, by the way, are about 55 mV in each neuron, and you have many neurons, so all these 55 millivolts firing at the same time add up. While the actual voltage could be quite high, in laboratory experiments, on the average, we are able to detect only about 150 mV. So if we have more voltage, we can deduce logically that there's more neurons firing, and more neurological structures in the brain that are active at that moment. Therefore, if you have a very complex thought, involving lots of different parts of the brain, that's going to add more voltage. And then if you add that with emotions, which activate different parts of the brain like the limbic system, then that adds even more voltage.

Then, all electrical fields travel. So now you've created this 150 mV, and that's floating about as an electrical field of 150 mV, and that is available to perform work. We talked about the subtle energies as being free energy that is free to interact with other energy, in energy-energy interactions, or interact with matter in energy-matter interactions. The energy's capacity to interact with and influence things in its environment is determined in part by its voltage. So a very strong thought can generate a lot of voltage, which can perform more work.

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That is how we get to the basis of telekinesis, how it is that thoughts can influence matter. That is also how we get to imprinting thought information into physical matter, retaining energy information imprints in matter. Because that 150 mV can perform work, it can go and use all of its energy in imprinting, displacing electrons in an atomic structure and making those imprints in the physical matter.

The duration, the longevity, of the thought form, depends on the strength and intensity of the thought that created it. In other words, it depends on the voltage. It's a fact that electromagnetic fields have a phenomenon of decay. They disintegrate over time, so they don't last forever. The decay takes a longer time when there is more voltage. A high voltage field will be stronger, and will last longer. It will take it longer to decay. So what happens is the electromagnetic field at the brain exists only at the moment of the thought, during the period in which the thought is generated.

It begins to travel at the beginning of the thought, and continues to be formed throughout the development of the thought. In other words, when you have a thought, and it generates this field, it's projecting outwards, because electromagnetic fields travel. And it's developing its form and shape and properties at the same moment as it's traveling over a distance, from your brain along that distance, and it's being formed the whole time. So throughout the process of this thought, its wave is continually changing over the distance, and it continues to travel during the development of that thought.

Thus, the beginning of the thought creates what's called a "front wave," and the conclusion, or end, of one particular thought creates a back wave, called a "tail wave." The whole electromagnetic field, consisting of all the waves from front to back, contains all the information and frequencies, not only characterized by the thought, but also reflecting the chronological sequence and full structure, depth and detail of the thought, just as in a real-time radio transmission. Accordingly, all the subtleties of the thought, including the process of the thought over a period of time, is all perfectly contained and communicated by the electromagnetic field, so it's very precise.

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Another thing about thought forms traveling - Some people find it an outrageous idea that when you have a thought it can travel, and go places and do things. I want to just briefly explain why this is not only supported by physics, but in fact required by the undisputed fundamental physics. Thought forms are created by changing voltage potential in the brain, and are therefore electromagnetic fields consisting of electromagnetic waves. All electromagnetic waves travel at the speed of light. That's a law of electrical field physics. They must travel at the speed of light. Therefore, all thought forms must necessarily travel at the speed of light. So the conclusion, then, is that it is not strange that thought forms can travel, but rather it is inevitable that they must travel. It is impossible, then, for a thought form to just stay still and stay around the person. It must continue traveling.

So you have a thought, and it must travel for a certain period of time at the speed of light, but it decays fairly quickly. However, if it's a strong thought with a higher voltage, then it will decay slower, and travel further.

LAURA: When you're thinking of someone, and then the phone rings and it's that person, can that be related?

PROFESSOR: That's exactly right. That can be an exchange of energy information, that's telepathy. You had the thought, it was directed to that person so it traveled in their direction, and they were sensitive to receive it, and got a subconscious idea that they were thinking of you, so they decided to call. That's a very common phenomenon, and people talk about that all the time, even if they don't particularly believe in anything.

Here's something interesting. The shape of the field is determined somewhat by the shape of the antenna which transmits it. A circular, spherical field dissipates faster. In the case of 55 mV impulses from the brain, perhaps 100 impulses, probably exists only up to one second. That would be about 5,500 milivolts, or 5.5 volts. So a very strong thought, much stronger than usual, would probably last only about one second. That's not very long.

Directional fields, however - not a circular field, but a directional field - dissipates much slower. A directional field of 5.5 volts can exist up to about 60 seconds. When you have a thought, and it's not just a passive thought generated vaguely around your head as a circular field that would last one second, but if instead it is a directed thought - you are thinking about a person, or a place, or a person in a place - and you are having emotions towards that person, or thoughts focused towards that person, you can actually create a directional field. As the wave must travel, if it is a circular field, it will travel by radiating outwards and dissipating quickly. Or, if it is a directional field, it will travel in one direction in a relatively straight line, with a front wave and tail wave, and all of the subtleties of the process of that thought contained in the middle along that field wave. That directional field, traveling in a focused direction, will dissipate much slower and last about 60 seconds.

The brain is most likely to emit circular fields, because the shape of the field is determined by the shape of the transmitting antenna. However, since human beings can cause specific parts of the brain to emit impulses through willful, conscious control - in other words we can control our thoughts, and control what information is projected - then the shape of the antenna can be changed to create a directional field. Of course, the shape of the brain can not change, but by using different specific parts of the brain, the configuration of those parts in relation to each other can have a different shape that is not circular, such as linear. If those parts of the brain are the only parts transmitting at that moment, then they effectively constitute a transmitting antenna with a different shape.

OK, so when we're thinking about a person in a certain place, and we're actually feeling the energy moving in that direction, we can be activating specific parts of our brain which can change the shape of the antenna. Because if it's just basically a passive thought, then it's just the whole brain all together generating a circular field, but if it's a very specific thought, directed in a certain way, it's going to be a directional field, and will most likely travel in a straight line. We have some degree of control over the direction that it's going to travel. In the practice of ceremonial magick,

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and making spells in occult practice, people actually use a sword or a ritual knife to point in a specific direction, and they give themselves the mental and emotional experience of feeling and visualizing the energy actually moving in a straight line towards a direction which they have picked. The result of that, how that affects the brain, can actually change the shape of the antenna, and cause the bioenergy to actually go in that direction.

The directional field, then, will dissipate in about 60 seconds. Circular fields from less specific thoughts will dissipate in only about 1 second. So it seems that a thought form can't get very far, but the electrical field physics tells us that the electrical fields have to travel at the speed of light. Thus, during that one second, the electromagnetic waves must travel at the speed of light, which requires them to travel over a distance of approximately 300,000 kilometers during its brief existence. So it exists only for a short time, but it travels very far during that one second. Accordingly, during that one second of existence, the thought form can theoretically travel around the whole Earth several times.

The phenomenon of telepathy, by the transmission and receiving of electromagnetic thought forms, within the range of 300,000 kilometers, is solidly supported by fundamental principles of physics. So there is no question, applying undisputed laws of physics, that telepathy can in fact happen over a great distance, even despite the fact that the fields dissipate.

DAVID: I have something to add to this. I've been playing with a book on ceremonial magick, and it says that you can influence people from a long way away. I tried this experiment many times, and it has always worked for me. The theory was that if you wanted someone to call you, there were two ways you could do this. One, you can put yourself into a trance, or relaxed state, and strongly visualize the person you want to speak to, and you visualize that you have a tube that goes across the world, right into someone's ear, and you just say "call me." And I've done that, and people have called me only minutes later. It might sound really weird, but it worked. The other way is that you visualize that from the third eye, a bolt of energy - like a lightning bolt - is traveling to that person, and I've done that many many many times, and the person has always

phoned me.

PROFESSOR: That's using the pineal body to project the mental energy.

DAVID: That's fact, it's not fiction.

PROFESSOR: That's what we said is changing the shape of the antenna, so by using a specified part of your brain, and feeling it in your forehead, and moving in a straight line, it travels that way.

DAVID: The thing was that a ball of energy really shot out, and was directed at the forehead of the other person.

PROFESSOR: Well, because it was a very focused thought, it had a higher voltage, and because you controlled the way your brain projected it, and you felt it projecting out in a certain direction, that makes it a directional field which dissipates in 60 seconds instead of one second, so by the time it reached your target in a couple milliseconds, it still had most of its original voltage left for maximum impact.

LAURA: I've also done a similar thing, but usually while holding an object that the person owned.

PROFESSOR: That's a good technique. You're using the energy information imprints in the object to tune into the person who owned it, to help you direct your own information energy to them.

Now, the duration of a thought form depends on the strength and intensity of the thought, and its voltage. The sharpness and clarity of the thought form - how clear the information signal is - depends on the precision and the focus of the thought, and the complexity and discernability of the

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information carried in the signal. There can be a difference. If you have a vague thought, even if it's a strong thought that's not very specific, the clarity is going to be low, and somebody can receive that, and say "I'm thinking of David now," but still not receive the subconscious suggestion to call him, because the sharpness and clarity of the thought form is poor. But when David is controlling the thought form, and giving it great precision and focus, and saying the words "call me" as he's projecting his mental energy, the sharpness and of the thought form is very clear, and when it's received at the other end it's received as a subconscious suggestion to actually call on the telephone. So that is the effect of the sharpness and clarity of the thought form.

Also, we talked about the complexity and discernability of the information in the signal, in other words, whether you can discern, distinguish or identify certain parts of the signal as being different from other parts. For example, if David is thinking "call me" while he is equally strongly thinking that he has to send a fax to somebody, and then go have a meeting in 10 minutes to sign a contract, and he's thinking about all these different things, the thought is going to be more complex, containing different topics and messages, so it's going to be much harder for the person receiving it to distinguish between the different thoughts, and instead of deciding to call him, they might run out and sign a contract. So when you focus on just one thought, and willfully project that, the sharpness and clarity is good, and the telepathy will be more successful.

Let's talk about the color of the thought form. Color is frequency. That's all it is. We saw the spectrum of the colors, and it's on a range of frequencies from lower to higher, from left to right, and at different frequencies things have different color. Therefore, a thought form can also have color. Sometimes psychics say "I see your thoughts," or your energies or emotions, and say that they are a certain color. Well, that means that the psychic has identified them as being a certain frequency. So the color of the thought form depends on the identity and the content of the thought.

DAVID: Going back to projecting your thoughts to somebody, then, what is the strongest color? Can we use color to strengthen the thought to be focused on a singular thought or idea?

What could the strongest color be?

PROFESSOR: Well, the frequency, under certain circumstances, can make the signal stronger. In that case, theoretically something at the higher end of the spectrum, with a higher frequency like purple, that could be stronger in terms of the power of the energy to perform work, or in terms of the stability of the signal avoiding external interference. But, on the other hand, frequency is also the identity of the information, so instead of maximizing the force of impact, we can maximize the clarity and accuracy of the information we are sending. If you're trying to communicate something emotional, the color green would best carry that thought content. We will explore the color relationships further when we get into aura and chakra analysis. Thus, if you have a message about an emotional topic, and you project it as purple - which is more related to intellectual themes - you might compromise or confuse the emotional content of your information.

So if the goal is maximum force of impact, the strongest color is probably the color at the highest frequency range of the optical spectrum. If the goal is maximum precision and accuracy of energy information exchange, then the "strongest" color is probably the color which is experimentally associated with the type and topic of the information which you need to communicate.

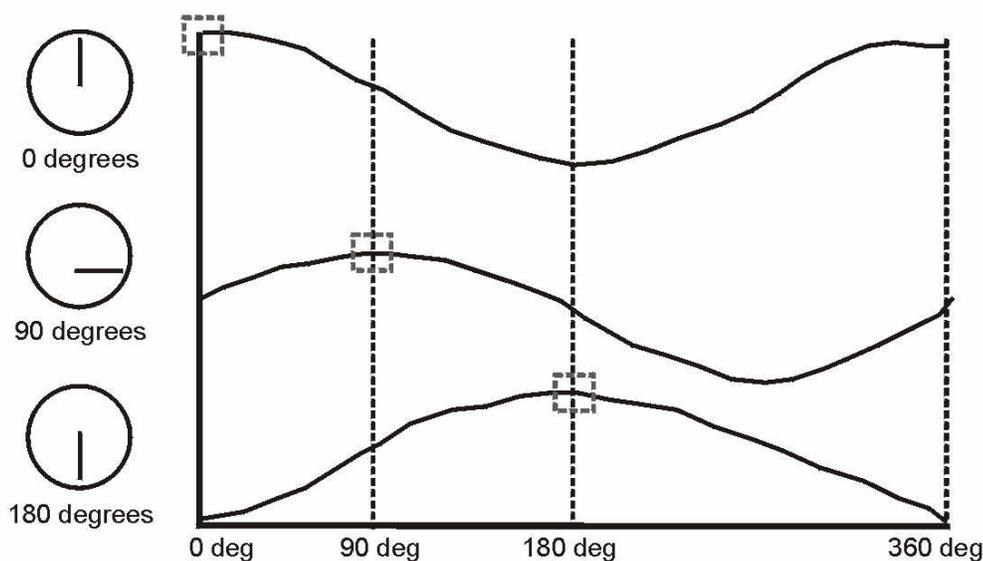
Moving on now, the texture of the thought form, how it "feels" when it's received, or the feelings that it magnetically induces, this texture is determined by the feelings and emotions which were put into the thought, and also the waveform of the signal. OK, so now we know how thought forms behave, and what characteristics they have. They have duration, sharpness and clarity, color, and texture. All of which depend on the voltage, the precision of the thought, the frequency, and the waveform of the signal. So that is mostly everything about thought forms, and how they behave.

Now, I think we'll just touch on sympathetic vibration, which is how channeling happens, how to channel energy information, and I think that will be enough for tonight. Then, in the next class, we can start with psychometry and atomic structure, and look at exactly what's happening inside physical matter.

The strength, which is the amplitude, of brain waves is determined by the intensity of concentration. Amplitude is the force that the signal has. Not just strength, in the general sense, but force, the actual impact it can have. That's amplitude, and that is determined by the intensity of concentration that is used in generating that thought.

There is a word in physics called an "oscillator." An oscillator is defined as any system which vibrates at some frequency, or pattern of frequencies - which is called a "complex frequency." So if there's just 5 Hz, or 5 times per second, that's just one frequency, but if there's an interference pattern of information at 5 Hz, and other information at 20 Hz, and some information at 50 Hz, they are all going to interfere with each other, and generate a more complex frequency. The complex frequency might even be irregular, it might not even be periodic as a certain number of cycles per second. It might be 3 times in one second and then 2 times in the next second, then once in the third second, and then repeat the whole cycle every 3 seconds. That would be a complex frequency. So it is possible for an oscillator to be a pattern of different frequencies constituting a complex frequency.

Phase Shift of Periodic Waves



Let's look at the diagrams on phase and phase shift. A very important concept in oscillator physics is that of "phase." A phase describes the beginning and end of a complex frequency signal. That's literally

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what it is. It is marking points on the oscilloscope, where the signal begins and where it ends. So if it repeats in a cycle every 3 seconds, then the phase is going to start at 0 seconds and finish at the end of 3 seconds, and then repeat. Phase, then, describes the beginning and end of the signal, and how long the repeated pattern lasts. If two oscillators are said to be “out of phase,” this means that they have different frequencies, or that maybe they have the same frequency and same pattern, but they begin and end at different times, out of syncopation with each other (“out of sync,” as we say). If they are “in phase,” or synchronized, then they have the same frequency, and the patterns begin and end at the same time.

Next, there’s a concept called “rhythm entrainment.” In this principle of rhythm entrainment, the highest frequency, or the strongest vibrational signal, overcomes the weaker signal, and transmutes it - changes the weaker signal - to transform into the phase of the stronger signal. This establishes what’s called a “resonance.” Resonance is a phenomenon where the vibration goes backwards and forwards throughout the distance of the signal, and creates a channel of information, which is carried back and forth. David, you mentioned the “tube,” as a mental symbol for a channel of information, but in the physical object of a material tube, when there’s resonance the information travels both ways, and people can actually listen to each other and talk to each other through the tube. That’s an example of resonance - a channel of information.

When you have this phenomenon where the stronger signal overcomes the weaker signal, and establishes resonance, that is called “induced rhythm entrainment.” When we have induced rhythm entrainment establishing resonance, opening a channel for information exchange, that is the situation which we called “sympathetic vibration.” In other words, the two oscillating systems vibrate “in sympathy” with each other. That’s why it’s called sympathetic vibration. One classic example of this is when you have clocks with pendulums, where the pendulum swings back and forth to make the clock tick. If you have 10 of these clocks on the wall next to each other, and they’re all swinging out of syncopation, if one of the clocks has a pendulum that’s maybe longer, or heavier, or is somehow stronger with a more stable signal, the vibration of that one clock will overcome the signal of all the other clocks that are weaker than it. This process of rhythm

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entrainment actually takes place, and it has been demonstrated that over a couple days, all of these clock pendulums swinging at different rates and rhythms, eventually all swing in complete synchronization, in the same direction with the same movement at exactly the same frequency.

Now, in the sympathetic vibration phenomenon, a stronger signal is defined as a higher frequency, higher voltage, higher amplitude, or a more stable waveform. A weaker signal is defined as a lower frequency, lower voltage, lower amplitude, or an unstable waveform that is maybe erratic or irregular. So that's how we define stronger and weaker signals.

There is a very important and useful device called an oscilloscope. It's a little television screen in the electronics laboratory. The bottom axis of the oscilloscope screen - the line on the bottom of the graph - measures time, from left to right. The left axis - the vertical line on the left of the graph - usually measures voltage, from bottom to top. When you look at the graph of volts versus time, which shows the fluctuation of voltage over time, it creates a wave filling the space of the screen with a repeated shape or pattern. That is called a "waveform." So the shape of the wave reveals how one of the variables, usually voltage, changes over time. The voltage changes cause a digital "pen" to move up and down, while at the same time the oscilloscope traces the movement, pushing the same "pen" from left to right at a steady, even pace over time. The result is a drawing of the shape, or form of the wave. This waveform is very revealing about the information which is contained in that signal.

The process of "channeling" information means establishing resonance by tuning in to the frequency of something. Let me put it another way. When we, as human beings, want to channel subtle energy information from any part of the universe, we do this channeling by establishing a resonance. We establish this resonance by tuning in to something. One act of tuning in is Laura's example of holding an object that belongs to a person, and that helps you actually feel the energies that are characteristic of that person, and you're tuned in to the complex frequencies of that person. So you're tuning in, and then in the case of channeling - where you are not trying to project energy, but rather receive it - you then go into a passive mental state, which is relaxed.

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You thereby are making yourself the weaker signal. Now, after you have tuned in, and made yourself the weaker signal, that stronger signal from the source which you are “reading” will carry the energy information by the resonance, through this mechanics of sympathetic vibration. Now you are on the receiving end of a sympathetic vibration, and you are channeling information.

So, when you talk to psychic mediums, and they say “I’m channeling some spirit” or “I’m channeling some energy” from the universe, this is what they’re trying to tell you that they are doing. They’re saying “I established a resonance with something that I tuned in to, I became the weaker signal, and allowed the stronger signal from the source to carry the information to me.” So the act of channeling is the process of sympathetic vibration. And now I think we know just about everything about how thoughts are created, what they are, how they behave, how we can feel them with our hands, and how we can channel them using our mind to receive the information psychically.

By the way, we can channel information from the universal hologram. Maybe if we don’t tune in to a person, we instead tune into the frequency of the Akashic Record. And now we establish resonance with the Akashic Record, we become the weaker signal, and the stronger signal from the universal hologram carries the information to us that way. So we can choose where we’re getting the information from, based on what we are tuning in to. We can tune into the bioenergy structure of a person, the subtle energy structure of an object, the information energy structure of a mental entity of electrofield consciousness, or the energy information structure of the universal hologram. Therefore, we can effectively channel information from anything in the whole universe. We just have to know how to tune into it.

LAURA: Our family, we’ve been going to a spiritualist for 10 years. I went to see her twice. The second time I went to see her, she was channeling through two spirit guides, as she called them. It was if they were actually talking to the two spirits. One was a nurse, and one was a small girl. So she said “if you have any medical questions, please ask me, because I have a spirit guide who is a nurse.” It was so weird, she would be talking to this spirit guide, and she’d get

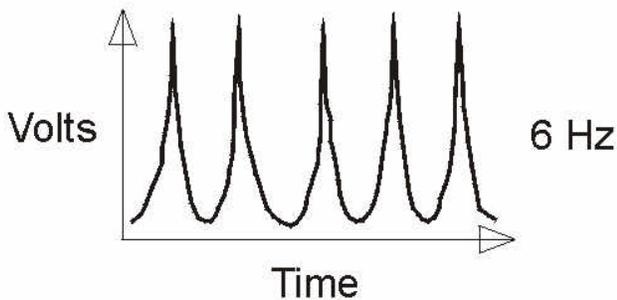
information from them, and then tell you.

PROFESSOR: That would mean that she's channeling energy information from an entity of electrofield consciousness. And now we know how, exactly, she did it - presuming that she was really doing it. Well, almost exactly. We still have to get into the brain in a little more detail.

Unstable Low-Freq Waveform



Stable High-Freq Waveform



Just as a visual reference, before we finish for tonight, I want you all to look at the diagrams of the "unstable low frequency waveform" and "stable high frequency waveform." I want you to see that on the oscilloscope, that's how they would look. You can see the strength and the shape of the stable high frequency waveform. So if you establish a resonance between these two frequencies, the unstable and stable, you can see how the stable one can overcome the one which is imbalanced, and cause a rhythm entrainment so that they come into phase with each other. That's how sympathetic vibration works.