

The Biology of Belief: An Interview with Dr. Bruce Lipton

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BL: The new mechanism of evolution suggested by the new biology you describe in your book is one that consists of repeating patterns of self-similarity; it is a pattern based upon fractal geometry*. The significance of fractals is that they represent basic patterns that are iterated (repeated) over and over again. If you can recognize a pattern at one level of the structure you can apply that awareness to understand the patterns throughout the whole structure.

LG: Right, like the Fibonacci patterns found in nature?**

BL: Right, so basically the evolution of human civilization is self-similar the evolution of a single giant organism. We are *humans are the cells in that 'social' organism. The relevance is that human civilization will evolve through the phases that characterized the evolution of animals, Human civilization will go through evolutionary phases that are redundant to previous evolution patterns. For example, in the evolution of vertebrate animals, the pattern provided for fish, amphibians, reptiles, birds, and mammals, an evolutionary jump occurred between each of these major classes of organisms, Civilization is in the process of such a jump now, as we are evolving from a reptilian-based civilization to a mammalian-based civilization. The intellectual character of our culture's leadership is currently most similar to that of reptilian behavior. And yet more advanced mammalian characters yourself and myself are in the process of rewriting a new blueprint for civilization, different from the way we are living now. Reptiles are 'conscious,' and do not express the trait of 'self-consciousness.' What that means is that they live for the moment but they have no conception or vision about how their actions today affect civilization tomorrow.

LG: Not much abstract thinking in that state of being.

BL: A perfect example is our going to war in Iraq , without even considering what the consequences of the war will lead to six weeks later. We fought the war without even a notion of how to deal with the population when the war is over. That is an excellent example of reptilian thinking. A mammalian civilization is a very different one because the character of mammals is that they are nurturers. Nurturing means to 'take care of things so that the future will be better.' Mammalian civilization would be focused upon taking care of the planet, while the current reptilian government, like dinosaurs, are raping the planet for what they need at the moment with no consideration of how their actions affect the future.

I think that the mammalian character of our culture was actually seeded in 1969 when we were just completing the bird phase of human civilization. That phase of our evolution was initiated when Wilbur and Orville Wright got off the ground in 1904 and reached its fullest evolution, when we landed on the moon. When that famous picture of the earth on the horizon of the moon was taken in 1969 and sent back here, it changed the cultural mindset for a lot of people, for they responded by saying: "Oh my God, that's all there is. We have got to take care of our planet." And that's when all of a sudden we got the idea to take care of (nurture) the air, the water, our children and we began to use that belief to impact political decisions. And that's because there were enough people who were mammalian in character saying that we must take care of those things for our future so that there will be a planet left for our children.

We have been working on this mission, and it's been an uphill battle against the old reptilian political hardliners. It's now coming to a point where the dinosaurs (the president, his political followers and his friends in the 'oil' industry-which by its nature is derived from the dinosaur ages)'it's going to crack. In the past, the dinosaurs went extinct, for they were not adapted to the evolving world. As in the past, something is happening that will not sustain the ancient reptilian mindset. We're about to hit the wall, and future events will turn under the current social system so it will not be able survive using its current awareness.

After the crash, a new system, a mammalian-based nurturing one, will come out of the ashes. However, we will not experience the mammalian-based culture until the present one crashes. This means that we will have to wait and keep preparing for the future, while recognizing that during this evolutionary jump, all around us things are going to look pretty chaotic.

LG: As you probably know, in most chaotic systems there are hidden patterns that can be seen if you're not consumed by fear.

BL: Well, that's exactly where the fractal geometry comes in. Fractals are based on chaos and their order comes out of the chaos. We will leave behind the structure of the reptilian culture, go through a period of chaos and then evolve into a more advanced mammalian structure.

LG. Call me an incorrigible optimist, but that's the vision I see. OK, here's the first question: You say in your book, *Biology of Belief: Unleashing the Power of Consciousness, Matter and Miracles*, that by giving the "energy-based" environment its due, it provides the foundation for the science and philosophy of complementary medicine and the spiritual wisdom of the ancient and modern faiths as well as for allopathic medicine. Could you explain what you mean by that, and how does that unify complementary medicine, spiritual wisdom, and allopathic medicine?

BL: The first thing to recognize is that each one of these healing modalities 'complementary, allopathic, and spiritual' is based on their perceived philosophy of how life works. The philosophy that the allopathic community holds is that life is the consequence of a Newtonian matter-based machine. So when they look at the body it's certainly based on matter; that's all it is. If you understand the body's physical pieces, you'll understand why life works, how it works, and you can make physical parts called drugs to fix it. So their whole premise is that life is a physical machine and in that vision, energy is not relevant to the function of the machine.

In contrast, complementary medicine is based upon a philosophy that recognizes the controlling influence of energy that flows through the system' specifically through the chakras, the meridians. It's an energy-based system, which is not the same as the Newtonian material-based living system. Complementary medicine emphasizes that to understand how the body works, you really must understand the dynamics and influences of the energy flowing through the system.

Spiritual healers have a philosophy is somewhat akin to the complementary healers, but the complementary modality emphasizes a bit more the combination of the body's physical and the energetic components, and therefore, integrates allopathic understanding as well. The spiritual baseline emphasizes that energy (spirit, an invisible force) runs the body, and does not focus much on the physical parameters of life.

Three philosophies: The first one, allopathic, is Newtonian physics. The spiritual one emphasizes quantum mechanics. And complementary healing integrates both, because it utilizes both the quantum and Newtonian characters to describe life. Now remember that physics and quantum mechanics are the same thing. Physics is actually defined as 'mechanics' so when we talk about physics, we are actually talking about mechanisms of how things work.

The first mechanistic approach was the Newtonian approach, when Newton created the mathematics to predict the movements of the heavenly spheres. The significance of his work is that when he made his

calculations, he didn't use the concepts of energy or God, or spirit in his equations. Newton just used the physical parameters the planets in his measurements. Since he was able to predict the movement of the planets using only their physical parameters and no other variables, it was perceived that one could understand how the Universe worked by ignoring the contribution of energy and ONLY studying its physical characteristics.

Quantum physics, on the other hand, reversed that fundamental belief in 1925. While Newtonian physics perceived that the Universe's smallest subunits were marble-like atoms, quantum physicists looked deeper and found that atoms were not physical but were actually made out of energy. While Newtonians focused upon a Universe made out of matter, quantum physicists realized that the Universe and all of its components were made out of energy. And yet there is a reality that some of our Universe can be understood in physical terms and some of our world experiences can only be understood in terms of energy interactions. Just because quantum physics replaced Newtonian physics doesn't mean that Newton 's laws are wrong. So there are levels of reality where one can understand the world through a Newtonian eye and then there are levels where you must really apply the mechanisms described in quantum physics.

LG: Yes, in physics it seems like extreme speed and gravity determine when Newton 's laws break down.

BL: Yes, because they are not based on energy mechanisms, which active in an entirely different realm of speed when compared to movement in the physical world.

In our world, things that are large in size, like cells, tissues, organs and bigger, can to some degree be understood by using the physical laws of Newton . But when you get down to the level of the atoms and molecules that make up the cells, you're dealing with the quantum realm. Allopathic medicine focuses upon the larger physical realm in trying to understand how the body works. With Newtonian blinders on, all they consider are physical interactions. They perceive of the body as a molecular machine, and when it's not working, that implies some physical components of the body must be malfunctioning.

Their vision of disease is, "If the physical body is not working right, then throw in new molecules to adjust the function." And those molecular fixes are called drugs. So they attempt to heal from that mechanistic point of view. However, disease can manifest itself at different levels within the organism. If

the problems arise from trauma damage to the physical body, allopathic medicine offers miraculous healing opportunities. If I break a bone, need a new heart or got torn-up in a car accident, you can bet that I would seek an allopathic physician to help me heal. They can rebuild tissues and they can rebuild organs and transplant organs and fix bones and all these things. That's trauma. They do miracles with trauma and that's where, if you get in an accident and break your leg, you want a medical doctor.

However, if my dis-eases are the result of malfunctions occurring within the cell, such as cancer, Alzheimer's, auto-immune disease, these dysfunctions arise in the operation of the cell's molecules and atoms. Dysfunctions at these levels are controlled by mechanisms that operate in the energy-based interactions of the quantum realm.

For example, cancer is a dysfunction that starts within a cell, it didn't get hit with a baseball bat or anything, like trauma. It started as a molecular process that went awry. Diabetes is due to a malfunction of the molecules of the cell. Alzheimer's is expressed as a failure of the cell's internalized cytoskeletal structure. Diseases arising at the level of cellular molecules cannot be understood employing Newtonian principals. At this level of organization, we start to enter the realm of energy influences. Molecules are influenced by energy fields, not by baseball bats. For illnesses originating at this level of the body, traditional allopathic medicine is pretty much lost, for they're still pursuing mechanical defects in the genes and biochemistry. New research fully recognizes that quantum mechanical principles control behavior within the cell's molecular architecture.

LG: I like how they change the word alternative to complementary; it's actually a little more in line with what you're saying.

BL: Absolutely, because we're going to integrate the influences of both the energy and the matter in order to have a full awareness of how life works. Energy fields, like electromagnetic waves and prayer, profoundly influence the structure and function of molecules and the health of cells.

Research has shown that everybody's mind is broadcasting invisible energy fields that can be read outside of our skulls. What's relevant is that your regulatory energy frequencies are not contained within your body. You're like a tuning fork walking down the street, vibrating thought frequencies into the field around you. If you get enough people to vibrate in harmony, then the power of their collective frequencies reach a level that is powerful enough to move things.

LG: Something we've noticed lately is a synergy in our community when like-minded people come together.

BL: Absolutely. It is based upon energy coherence. As two or more people align their thoughts, there is a dramatic increase in energy power and coherence over that expressed by any individual person. It's not one plus one is two; it's one plus one is some larger number.

LG: It's interesting that you would mention coherence. My wife and I did neural feedback training and the moment we could reach coherence in our brain hemispheres, it was like a different ballgame altogether.

BL: Well, that's an important observation because brain coherence between the cerebral hemispheres is virtually akin to realizing a state referred to as super-learning. And that's an important brain behavior when you want to change the beliefs that run your life. In a state of super-learning one can literally download new data instantly.

LG: OK, next question is: As I look at some of the other sciences, like physics for instance, I've noticed a trend to view life, and our existence in it, as a more cooperative relationship. I also see in your view of cellular life this same tendency. Do you think this is an indication that we as human beings are evolving into a higher level of human consciousness?

BL: The answer is absolutely yes and it deals with the parallels that occurred in regard to how we evolved. For the first three billion years of life on this planet, the biosphere contained only free-living single-celled organisms. While such microorganisms as bacteria, yeast, algae and protozoa appear to be like disconnected individual living entities, over time they actually learned how to communicate across space with each other. So bacteria, even though they appear to be separate entities, here's a bacterium and there's one over there, they are in fact part of a complex community. All microorganisms live in community. Their communities are based upon the fact that they exchange information with each other through chemicals and energy fields. These chemical and energy signals reflect the status of life or

information so others in the community can get awareness as to what is going on in their world. Through evolution, cell communities began to become more physically organized leading to the appearance of multicellular organisms such as fish, frogs, lizard birds and human beings. Some people like to suggest there is no direction to evolution, but indeed there really is. Evolution is an explosion principle like the Big Bang. It starts at a certain point but it doesn't go in one direction like a ladder' with a low rung followed by a higher rung. It's actually a sphere, and the evolution of new species fills in all available environmental niches.

And while there were lateral progressions, to the left and to the right, they do not express evolutionary 'advances' over one another. But at some point when you're building left and right, then the next step is to elevate. The one characteristic that is uniform throughout the entire biosphere is that evolutionary advances are characterized by their ability to handle more awareness.

So from the evolution of prokaryotes (e.g., bacteria) to eukaryotes (e.g., amoeba, paramecium), one of the striking features is the increase in cellular membranes; there's 100,000 times more membrane in a eukaryotic cell than there is in a bacterium. My research, using enucleated cells (cells in which the nucleus and its contained genes are removed), reveals that the behavior of cells is not interrupted. These studies emphasize that genes do not control life. Subsequent research revealed that the brain of the cells was actually the cell's membrane. The only membrane in a bacterium is just its outer skin. When you look at the higher-level eukaryotic cells, not only do they have an enveloping cell membrane but they also have many membrane organelles within the cell, such as mitochondria, nuclei, Golgi bodies, endoplasmic reticulum, things like that. All those are cell membrane-derivatives. They have more membranes which directly translates as more capacity to process awareness.

However, there was a point where a cell could not further expand the amount of membrane it contained, for if the cell became any larger, the physical pressure of the contained cytoplasm would cause the membrane to rupture like a water balloon that has too much water in it. Cells reached a certain physical size and if they got any bigger the membrane would break and the cells would die. So the first three billion years of evolution was focused on making smarter and smarter cells. When the limits of cell size was reached, evolution stopped for there was no way to add any more membrane.

So the course of evolution seemed to flatten out with all the varieties of single-celled organisms. But evolution continued with a new way to accumulate more membrane. Rather than increasing the membrane within a single cell, cells started to come together in close proximity and share the awareness expressed in their collective membranes. If a cell has X amount of awareness (available membrane) and it can 'plug-in' to other cells, they could directly share their awareness. In the end, the

awareness of a community of cells can be expressed as X times the number of cells comprising the community. Evolution began to advance as well as life's efficiency when cells joined together into community. We characterize the different types of evolving cell communities in regard to the shape the multicellular organisms create. For example, single-celled amoebas may form a community that has a stalk and tentacles. This 'community might be called a hydra. A larger group of cells may organize their community into what we refer to as a clam. An even larger group of cells may acquire the 'shape' of a cat. And then again, an even larger community of single cells may acquire the shape of something we refer to as a human. Communities of cells are described as unique organisms, and we give those multicellular organisms specific identities. We may look in the mirror and perceive of ourselves as 'singular' entities, each bearing a unique name and identity. But in fact, our bodies are actually the expression of a 'social' community of approximately 50 trillion cooperative single-celled organisms. Why are we here? Over the millions and millions of years of evolution, cells created more advanced 'aware' communities. The human body is an example of cellular architecture that provides for an extremely intelligent life form.

Over time, the evolution of maxed-out intelligent organizations provided for humans, dolphins and other higher organizations, suggesting that we have possibly reached the highest level of organic evolution. Does that mean evolution has reached an endpoint? In one sense, the answer is yes. But as revealed in the self-similar character of fractal geometry, the process of evolution would repeat itself. Humans recapitulate the situation that arose with the appearance of single cells. Humans are in a sense evolutionarily similar to single cells. When evolution reached the endpoint of single cells, it changed strategies and began to evolve through the assembly of single cells into community.

Individual humans are essentially advanced 'single cells.' Like cells, we have come together in community over the years to share awareness. Social assemblies has provided for an evolving form of humanity (civilization). As mentioned earlier, we are not at the stage of organization where our assembly provides for an 'organism' with the character of reptiles and that our future advancements will help shape humanity so that we will express the nurturing character of mammals. All the higher levels of organizations, from cells to humans represent organizations that have evolve through their ability to communicate awareness.

LG: It's interesting how we are manifesting that in our outer world as libraries, postal services, and now the Internet.

BL: Oh, the Internet especially, because that's what cells had to evolve before massive multicellular communities could manifest. Cells developed mechanisms by which they could instantly communicate information throughout the entire systems, so that a skin cell, a liver cell, and a bone cell, would instantaneously know when you're having a good or bad moment.

Human evolution means that we're going to have six billion different individual perceptions that will provide a full spectrum of awareness to collective community known as humanity. And despite the fact that our current reptilian mindset is fighting this evolution, the reality demands the inevitable evolutionary step in which we're going to leave behind our reptilian fight-or-flight behavior, the struggle for existence awareness provided by Darwin. The next level of evolution will endorse that cooperation among the 'cells,' in contrast to the current notion of competition, is the ultimate step to our evolution and survival.

LG: And it seems like it takes so many subatomic particles to make an atom, so many atoms to make a molecule, so many molecules to make a cell, and it might take so many people to bring this about.

BL: Well, I think this is a reasonable assumption. Consider each human as a unique set of eyes understanding the universe. The more eyes' the more awareness. It's simple logic. That's why this next jump in our evolution is going to be a very rapid change, for it primarily depends upon a simple rewriting of our current beliefs. Based upon that lightning speed in the advances of our communication technology, it will be very soon when all citizens of civilization will be 'wired' into the planet's collective awareness. In the very near future we will resemble cells in our ability to instantaneous share awareness and experiences. When the wiring's in place, what happened 10 minutes ago will be known by everybody on the planet.

LG: One more question here, and then we'll get to the last question. How do you feel about society's trend to self-medicate for stress with drugs such as Prozac and Zoloft?

BL: That is it is yet another example of a consequence of educating people that they are victims of their biochemical machinery. And because of this, we don't take responsibility for the experiences we have in our bodies. We have a tendency to blame our problems on the failure of our body's mechanisms. So, for example, we can talk about cancer and ask, "What's wrong?" "Oh, the genetic mechanism is defective

and that's why it happened." This is our belief even though data reveals that less than 5 percent of cancer is hereditary. Ninety five percent of cancer is derived from how a person responds to the issues that confront their lives.

It's the same situation with cardiovascular disease. When you have a heart attack, does that mean you had a bad heart? No, it just means you have poor 'driving' skills in managing your responses to the world. While medicine generally suggests that your heart 'fails' you, in reality it more accurate to say you have failed your heart by generating stresses through your efforts to navigate life's path. When an individual is offered drugs to cope, it takes away personal responsibility in managing your physiology. Taking most drugs is tantamount to putting masking tape over all the gauges on your car's dashboard, because the drugs cover-up the feedback of information sent from your body when it is trying to tell you that your 'driving' behavior is damaging the vehicle (body). While drugs may cover-up your health problems, somewhere down the road you're going to run your body into the ground in that you are no longer paying attention to the gauges (emotions and symptoms) that provide feedback about how your body is functioning.

And the reality is that anyone who takes a drug to cover up their symptoms never really deals with the causes of their symptom. The drugs mask the symptoms so that we think everything is OK, yet the same destructive issues are still present and debilitating our systems.

LG: This is good information for people to really start reevaluating their lives and their actions and responsibilities. In the movie What the Bleep Do We Know, they said that most of our bad decisions are simply because we have bad information, which leads to limiting beliefs that we have about ourselves and reality, most of which is unconscious.

BL: We have two interdependent minds providing for our awareness and behavior. The most powerful processor of information is the subconscious mind that runs between 80-90% of our lives. It is like an autopilot in that it can run our day-to-day life without any input from the conscious mind. The conscious mind is a small part of the processor, but nonetheless one of the most advanced parts of our brain. The conscious mind can be used to drive the system serving as a 'manual' control mechanism, your thoughts can actually run the body. With training, yogis for example can regulate all their bodily functions including metabolism, heart rate, body temperature and behavior of the immune system. But because consciousness can think about the past and delve into the future, most of the time our conscious mind is engaged with such activities and is therefore not 'present' to run the show at the moment of now. That is why the subconscious mind runs most of the functions and behaviors that characterize our lives.

However, most people are unaware of the fact that the primary behaviors that are engaged by the subconscious mind were downloaded into our mind before we were 6 years of age. We acquire these behaviors by observing our parents, our peers and our teachers. This means that most of our behavior is actually a replay of other people's behavior' this is where conflict enters our lives because their behaviors are generally not in our best interests.

The dangerous thing is that the behavioral 'tapes' programmed in our subconscious are other peoples' behaviors and most of these behaviors were acquired so early in life, that we are not even consciously aware that we have or even use these programmed behaviors. Many of these early acquired behaviors are limiting, self-sabotaging programs. Your personal beliefs are in your conscious mind while the subconscious mind is a repository previously learned behaviors and reflexive instincts. The minds are separate and an awareness in the conscious mind has no necessary counterpart in the subconscious mind. Also, while you might become aware of new things in your consciousness, that new knowledge does NOT change preexisting programs in your subconscious. Old traits hang on. We may try to override limiting subconscious behavior using the conscious mind, but it will never change conflicting beliefs programmed in your subconscious mind. That's why people have to use so much willpower to override the subconscious mind and that's where the issue of 'power' comes in, because the subconscious mind is millions of times more powerful in processing data than is the conscious mind. In my book there is data that reveals that 20 million bits of information are processed per second in the subconscious mind; while only 40 bits of information are processed in the conscious mind for the same second.

LG: Which shows you the power of the filtering process created by our beliefs.

BL: Absolutely. The powerful subconscious mind runs the show; psychologists say about 80-90% of our daily behavior is run by the programming in your subconscious mind, most of which are apparently limiting programs. Therefore, ~85% of our life is an effort to overcome the conditions generated by the subconscious behaviors.

LG. Well, here's the last question and we've already touched upon it because everything we've talked about leads to this question: It seems like the quest and the thrust of life is to self-organize into higher and more complex organisms for the soul purpose, that's soul, s-o-u-l, of evolving into ever-higher levels of awareness and consciousness. Do you see us continuing this process as human beings linking together to form a planetary consciousness?

BL: Well, of course! Gaia, the planet, is itself a living cell. We are part of the Earth's membrane. As described in my book, *The Biology of Belief*, we're the equivalent of proteins in the cell's membrane. The membrane's proteins are the physical units of awareness. Humans are like organic antennas, downloading the Universe's information. The beautiful part is that when we wake up, become more aware, we will find that all humans are a part of the same organism, Humanity. When that awareness is owned by civilization, that knowledge will complete the Earth's evolution, for then we and the environment we live in, will cooperatively function as a single living cell. Then, as in all the previous evolutionary stages that has led us this point, this single cell (Earth) then joins up with the other planetary 'cells' to share our collective awareness. And so on and on '

LG: Then we're talking about galactic consciousness that's so far beyond even our wildest imagination.

BL: Absolutely. And we have hints that that consciousness is there, even though we are not! We are not evolved enough to dialogue with the other forms of planetary consciousness. When the Earth completes the current evolutionary process and we recognize our wholeness, the earth will represent itself as a single mature cell. At that time, we will hook up with other mature 'cells,' other planets, with life forms.

LG: The same way that molecules assembled into cells, cells assembled into organisms and organisms assemble into communities'

BL: Yes it's a fractal thing . . . it's implied in the geometry that it must go that way.

LG: It's an exciting time to be alive, isn't it Bruce?

BL: Absolutely! It's exciting but in different regards for the humans now present in our world. For those evolving a new 'mammalian' consideration of life, they will see the possibilities of the future, and the joy of living in the Light. However, for those that maintain their 'reptilian' perceptions, it will be 'exciting'

but in a negative way for they're certainly locked in their beliefs about the struggles in life and their fear of death. In the end, one side is going to walk away from this evolutionary leap and become whole, while those on the other side are going to be embroiled in the crises generated by their ancient, limiting thinking. Personally, I love being on the side of the Light.

LG: So do I, Bruce, so do I, and you know what? I think it's really great that you're putting out information like this. Validation somehow expands our awareness, which in turn gives us the courage to evolve past outdated beliefs.

BL: Likewise, what you're doing in your community adds to this awareness; to get every cell to turn its Light on is what creates evolution, so we're all working on this together. I would like to suggest that interested readers visit my website, www.brucelepton.com, to get more information and references on the important topics we touched upon in this interview. Information on my new book, including a sample chapter, is available at: www.beliefbook.com . Thank you for this opportunity to spread some good news!

*Fractal: A geometric pattern that is repeated at ever smaller scales to produce irregular shapes and surfaces that cannot be represented by classical geometry. Fractals are used especially in computer modeling of irregular patterns and structures in nature.

**Fibonacci sequence: The sequence of numbers, 1, 1, 2, 3, 5, 8, 13, . . . , in which each successive number is equal to the sum of the two preceding numbers

-(both definitions from The American Heritage Dictionary of the English Language, 4th ed., 2000)