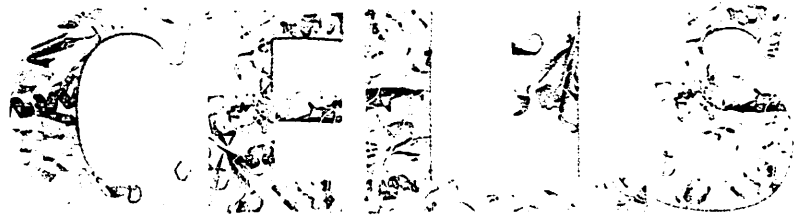


The wisdom of your



PART 2: HOW YOUR BELIEFS CONTROL YOUR BIOLOGY

BY BRUCE LIPTON, PH.D

CONVENTIONAL PHYSICS sees the human body as a machine made of atoms and molecules but the quantum physicists reveal that underneath that apparent physical structure there is nothing other than energy. That means we are energy beings interacting with everything in the entire energy field. What we are beginning to recognize is that there is an invisible world that we have not dealt with in regard to understanding the nature of our health. In other words, rather than focusing on matter, in a quantum world we focus on energy. In the world we live in we are entangled in an unfathomable number of energy vibrations and we are connected to all of them! In trying to understand a person's health, if you only focus on the physical, you miss the energy. If you only focus on the person, you miss the influence of the field. We are coming into a more holistic way of studying the fact that everything is one whole.

In quantum physics we also encounter a world of uncertainty. We have to let go of our Newtonian belief that we can determine everything, control everything and dominate nature, and come back to the natural theology approach that said to learn the patterns as best we can and live in harmony. By doing so we would be far better off today than in the world we have created, where our deterministic pursuit has changed the environment, changed ourselves and actually threatens our own demise. There is a comeuppance here and it comes down to understanding the nature of the field, meaning everything from the core of our being to the edge of the universe. We are part of this entire field.

Our thoughts are part of the energy field as is the energy from other living organisms and from non-living things. *Everything* is giving off energy. As we are doing neurological processing of the world that we live in, including our thoughts and beliefs, we are actually creating a magnetic vibration, like a tuning fork that emanates

from our head out into the field. Scientists have found that if they take our magnetic field and direct it back *into* the head they can influence brain activity.

Why this becomes relevant in our lives and in quantum mechanics is that we go back to the quote by Einstein: "The field is the sole governing agency of the particle." If we apply this understanding of Einstein's to the field that we generate with our thoughts, we can see that there is a connection wherein our thoughts can give shape to the particles that are the world we live in. All of a sudden we see that we are not disconnected little pieces moving around on the planet. We are little broadcast devices, giving the field shape and the shape that we generate manifests as the life experiences that we have.

It has been well known for a long time that in "crowd effects" or "mass event effects" where you get enough people together with their thoughts coherent, major events can occur on the planet. We are very much involved with shaping the world we are in. While mass events shape mass reality, we also participate in shaping our local reality and experiences through our own thoughts. This becomes important because if thoughts are giving rise to the material world, which according to physics they would be doing, then we have to start thinking about what kind of thoughts we are generating. Physicists

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have now come to owning that we all collectively create the world we live in through our *observations*: the world that we *observe* is the world that we create. This is very hard for most people to accept.

In fact, when quantum physics was first becoming accepted as the mechanisms by which the universe operates, the physicists had trouble with this themselves. They could say, "Well, I can see these ideas working at the level of atoms and molecules but I can't bring that kind of weirdness into my life." So there was an arbitrary decision back in the 1920s to say, "Let's restrict quantum mechanics to the world of atoms and molecules and use Newtonian physics to describe the rest of the world." That is why biology went on its merry way using Newtonian physics. Yet we are today beginning to see work by very reputable scientists that says the universe is created by our observations; we create the field and the field shapes the particle. The big lesson is that what you think or ask for, as the Asians would say, is what you are going to get. It is not a coincidence; we are actively involved in physically shaping the world that we experience.

HOW IT WORKS: THE BIOLOGY

To understand how it works, we are going to talk about the biology. We start with the fact that we are made of cells and cells are living organisms made from protein building blocks. There are over 100,000 different kinds of proteins, which are molecules with very complex shapes almost like gears that engage with each other. Some of these coupled-protein gears create respiration, some provide for digestion, others for muscle contraction, et cetera. All the functions of the cells are due to protein gears. The blueprints for the gears are the genes. When I need to make gears for myself I have to go get the blueprint from the DNA, copy the blueprint, which is called RNA, and then use that RNA to build the proteins.

The assemblies of protein gears in biology are called pathways, such as a digestive pathway or a respiratory pathway. I can look at all the physiologic characters of the human body and identify them as gears that are engaging with each other and through that interaction providing the movements that are the character of life. At this point we should have a big drum roll because I am going to try to tell you the *secret of life*. The secret of life is movement. Without movement there is no life; animation is a character that distinguishes living things from non-living things. So the issue is, what is this movement and how does it come about?



3-D Protein model courtesy of the U.S. Department of Energy Human Genome Program, www.ornl.gov/hgenis

All proteins are like strings of pop-it beads; the beads are amino acids. There are twenty different kinds of amino acids, and each of these amino acid "beads" has a unique shape. Changing the sequence of amino acids in the chain changes the final shape of the protein. Here's the secret: the sequences of amino acids are like built-in knitting instructions that tell the string how to fold up to form a specific structure. It's like self-knitting yarn. When amino acids are assembled into a chain you get a piece of protein "yarn" and then this piece of yarn will automatically knit itself into a specific structure based on the sequence of amino acids. We have 100,000 different proteins and each protein has a unique length and a unique sequence of amino acids that will determine how to knit that piece of yarn into a shape.

The body of a person who just died has all the physical characters and attributes of a live person, but it is *not moving*. Therefore the secret of life is not the proteins alone. The proteins provide for the structure but what causes the structure to *move*? Along the length of the protein chain, many of the linked amino acids have positive or negative charges where other kinds of chemical signals can bind. The final shape of the protein will provide uniquely shaped binding sites that complement specific environmental signals (such as hormones, drugs and other biochemical factors). When a protein binds its complementary signal, it changes the

balance of the positive and negative charges along the protein “yarn.” This causes the protein string to “adjust” its shape. In the process of changing shape, the protein moves. The movement is then used to do “cellular” work. Functions such as digestion and respiration are a result of proteins changing shape.

Life is a result of proteins being engaged by signals in a lock and key fashion. Newtonian-based conventional biology considers that all the signals that control biology must be chemical. As a result, the pharmaceutical industry was created to make new, life-controlling signals called drugs. Conventional medicine believes that if your biology is not working appropriately, your gears are not engaging correctly. Therefore, if we change the signals in your system we can change the regulation and functioning of the protein gears and take you from a diseased state into a state of health by changing your chemistry. But quantum mechanics questions whether the “signal” has to be a physical chemical. In fact, invisible energy signals are a hundred times more efficient in signaling proteins than are actual chemical signals. To summarize, proteins provide the function-creating gears; protein movement, driven by the binding of signals, provides for life; and the signals can be of two kinds: chemical signals or the more efficient energy signals.

The energy signals are the medium that unites most complementary medicine modalities. Asian medicine, for example, with its meridians and acupuncture points, is based on dealing with energy fields. Western medicine tries to manipulate the body’s physical components while Eastern medicine tries to change the body’s energy fields. It is important to note that quantum physics, which describes the mechanics of the universe, emphasizes that energy signals are a hundred times more efficient than drugs.

WHAT CAN GO WRONG?

If you are expressing a dysfunction or a disease, to what can you attribute it? It is probably due either to the proteins not having the right structure, or the presence of inappropriate signals. How can the protein structure be off? Defective genes alter a protein’s amino acid sequence, causing proteins to be assembled incorrectly and as a result not function appropriately,

thus leading to disease. But here’s the catch. Only a *very* small percentage of people actually have genetic defects that can cause a disease, far less than five percent of the population. That means ninety-five percent of us arrived on this planet with genes that were capable of providing us with a healthy existence. For ninety-five percent of the population, if they are failing in health it is not something wrong with the genes and the proteins, it is something wrong with the body’s *signals*. Inappropriate signals are the source of most human illnesses and dysfunctions.

What could cause the signals to be off? The first cause is trauma, damage from an accident that interferes with the conduction of signals from the brain. The second is from toxins, chemicals that shouldn’t be in the body but when present interfere with the body’s signaling chemistry. And the third, most important and predominant source of incorrect signaling is the mind. If the mind sends the wrong information at inappropriate times, our systems become imbalanced, leading to dysfunctions and diseases. Therefore rather than focusing on the genes and the body’s chemistry, which is the myopic focus of conventional allopathic medicine, the new physics and the new biology reveal that we should

be focusing on both the physical signals and the energetic signals, which include thought.

The surface of our cells may have over a hundred thousand protein receptors waiting for their complementary signals to show up. The cell reads both the physical and non-physical elements of the environment through these proteins. Signals generally provoke a response that causes the cell to maintain its survival. “Food is out there; take it in. Toxins are out there; escape and avoid them.” The skin of the cell and the skin of the human body carry out the exact same functions. They “read and respond to” signals.

THE ROLE OF PERCEPTION

On the surface of the cell at any one time there are over a hundred thousand different switches prepared to respond to a massive variety of environmental signals. While we can describe the nature of one signal engaging one response, we have to incorporate the complexity of wholeness when thousands of signals are acted upon at the same time. If we really want to know what the cell is doing we can’t look at any one switch; we have to

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identify what a hundred thousand switches are doing. The numbers of interactions go beyond our ability to grasp with our minds and would be a very difficult project even for computer engineering.

These protein switches control the functions of our lives through *awareness of the environment*. That is precisely the definition for the word *perception*: an awareness of the elements of the environment through a physical sensation. These membrane switches are fundamental units of perception; they read an environmental perception and adjust the biology to the need required. This becomes very personal because it is the way we perceive the world that controls our behavior. *Perception controls behavior*.

If our perceptions are accurate then the opportunity of survival is very great. But if we are programmed with misperceptions and read the environment inaccurately, then that means we will inappropriately engage our responses. Consider an anorexic person looking in a mirror. While we may see that person as dangerously thin, the anorexic perceives himself or herself as very large and fat. That misperception signals their biology to get rid of more fat and that misreading of environmental cues can lead to their death. The significance is very clear: when our perceptions are inaccurate, our behaviors are no longer synchronized to support our survival.

Perception also controls the read-out of the genes. It is how we see life that determines which genes will be activated to provide for our survival. Again, emphasizing the role of misperception, if we inappropriately activate genes because we sent the wrong signal at an inappropriate time, then we can subvert the function of the biology and actually cause disease and dysfunction. We are not so much the victims of genes as we are the creator of our lives, selecting genes to control our systems based upon our perception of reality.

It is true that we have a period of development from conception to the fetal stage wherein the body plan is being laid down and the structure is being coordinated by the genes. Information feedback between the embryo, its environment and the genes controls this developmental period. This is a period where genes are the primary source of control. From the fetal stage on, our perceptions of the environment determine what is going to happen to the rest of our development.

GENETIC ENGINEERING

Today we're dabbling with genetic engineering. In so doing we've created a great number and variety of genetically engineered crops. What we are not considering is the consequence of putting those crops into the real world. We are now finding the engineered genes we put into certain genetically modified organisms moving through the ecosystem and being picked up and used by other organisms. For example, in efforts to make plants resistant to a poison that is used to kill surrounding weeds, scientists engineered crop plants with poison-resistant genes. It was later found that these plants passed the engineered genes on to all the other plants around them resulting in the creation of "super weeds" that no longer can be killed by the usual agricultural poisons.

The point is that all organisms are part of a community and share their genes. It has also been recognized that when we eat genetically modified foods, the bacteria in our gut can pick up and incorporate the food's genetically engineered genes. Our tampering with Nature is even changing the genetic organization of the bacteria within our own digestive system! *We will probably only find out the costs of genetic engineering when the fruits of our labor come back to bite us.*

DEALING WITH STRESS

Survival is very much tied in with *growth* mechanisms that replace the number of cells we lose every day as a result of normal attrition. But another part of our survival behavior engages a completely different set of mechanisms: those we use for our *protection*. Protection shuts down growth processes and allocates energy to behaviors needed to sustain us in a threatening situation. We engage in either growth or protection mechanisms every moment of our lives, funding these activities with our life energy. It takes energy to grow and it takes energy to protect ourselves. When we engage in protection mechanisms, we close ourselves down and conserve energy by shutting off growth.

Nature designed us to use protection in acute responses like running away from a saber tooth tiger. But if we maintain protection for too long, we compromise our survival. What really becomes important is this: how much of our lives are in growth and how much in protection? The more we live in fear, the more we allocate our energy into protection. The more afraid we become,

the more we shut down growth—to the extent that we can be scared to death. In the world that we live in today, the protection response has become a greater and greater percentage of our everyday life experience; most of us are living in very high levels of stress and are continuously debilitating our system by interfering with growth. Cells cannot move in both directions at the same time. They are either in growth, open to the environment and assimilating what's going on, or in protection, shutting themselves down waiting for the environment to clear itself before again expressing their normal functions. We are a community of cells that responds to perceptions generated by our central nervous system.

Today we have fears from which we seemingly can't escape. Who is Al-Qaeda and where are they? Where is the bird flu? We are presented with fears that threaten our survival, perceptions that cause us to question whether we can stay alive. Those perceptions cause us to get into a protection posture and shut down life-conserving growth. This is important because it affects almost everybody on the planet today.

We have two different protection mechanisms. The immune system deals with internal threats like viruses, bacteria, parasites, or cancer cells. The adrenal system secretes stress hormones that protect us against exterior threats like a poisonous snake or an attacker. Stress hormones cause the blood vessels of the gut to constrict and they also cause the immune system to shut off. The reason for that is very obvious: if you are being chased by a lion, you don't put energy into fighting off a bacterial infection; you put it all into running. The medical professional has known for years that stress hormones shut off the immune system. They provide recipients of grafted tissues or organs with stress hormones, so that their immune systems do not reject the grafted foreign tissue. But what does this mean in the operation of our day-to-day lives? Every day, as we experience stress we're debilitating our immune system.

As we repress the immune system, common everyday things can start to take over and create disease. Most people are very familiar with this because as we find more stress in our lives we get weaker and sickness becomes the way of life. Kids at school, for example, are more likely to get sick around exam time. The concept that we have to catch something is silly because it turns out that most of us have almost all of the pathogens that affect

humans in our bodies already. The stress that inhibits the immune system also shuts down growth processes that replace cells lost to normal attrition. With enough stress, there will be a point where the numbers of cells lost and not replaced will compromise our functions and we will start to express a disease.

There is another factor of stress that I refer to as "adding insult to injury." Stress hormones cause the blood vessels in the forebrain to constrict, forcing the blood to the hindbrain to nourish the high-speed reflex center used in stressful conditions. Basically, constricting the blood vessels in the forebrain shuts down consciousness and intelligence. So an interesting and unwanted aspect of the stress response is that we become less intelligent when we are under stress. Therefore, a group of people or a nation that is bathed in fear is less intelligent than a nation that is living in growth and harmony; those living in fear will make "hindbrain" reflex decisions that may be inappropriate. This may account for some of the conditions of the world we live in right now because the fear levels are so great. It becomes incumbent upon us to recognize that our biology doesn't know the difference between a real fear and a made-up fear. The simple reality is that our perceptions and beliefs, whether right or wrong, are still going to control our biology.

Our biology did not intend for us to engage stress mechanisms as a twenty-four hour, 365 days a year event. It was designed as a response to an acute event; the rest of the time we should be maintaining growth. Yet the world that we have chosen (the media, the government, et cetera) really encourages us to live in ongoing fear and it causes great debilitation of our physiological maintenance and the neurological and immunological characters that we express. It is important for us to understand that if we change our perceptions, we can change our biology and our world. We must stop living in fear because it is killing us as individuals and threatening our existence as a species.

[To be continued in the next issue] 🌸

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