

How Epigenetics Can Change Your View of the Mind and the Spirit

A Teleseminar Session with
Bruce Lipton, PhD
and Ruth Buczynski, PhD

The National Institute
for the Clinical Application
of Behavioral Medicine

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A complete transcript of a Teleseminar Session
featuring Bruce Lipton, PhD and conducted by Dr. Ruth Buczynski, PhD of NICABM

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with Bruce Lipton, PhD
and Ruth Buczynski, PhD

Dr. Buczynski: Hello Everyone! I'd like to get started. I'd like to welcome you back to our 2011 series on the New Brain Science. I'm Dr. Ruth Buczynski, a licensed psychologist in the state of Connecticut and the President of the National Institute for the Clinical Application of Behavioral Medicine.

We have folks who are calling in from around the world tonight and as has been our tradition, I'm going to give you some of the information on last week's call. We had 139 people from the United Kingdom, 20 from New Zealand, 17 from Ireland, 11 from France, 3 from Slovenia, 1 from Jamaica and 1 from Kenya. There were many other countries and we have named several throughout the 6 session series. I just want you to know, whatever country you are listening in from, we welcome you to be part of this call!

We are also a community of people from a wide range of specialties. We are physicians, nurses, psychologists, social workers, marriage and family therapists and mental health counselors. We are dietitians, physical therapists, occupational therapists, chiropractors, physician assistants, and nurse practitioners. We are stress management consultants, energy workers, clergy, massage therapists and coaches. We have a wide range of practitioners on this call tonight. And if you're not a practitioner, perhaps you're a layperson, I just want you to know that you're not alone. There are lots of other laypeople on this call and we welcome you here as well.

My guest tonight is Dr. Bruce Lipton. I am *so* excited to have Bruce here on the call today. He has spoken a few times at the Conference in Hilton Head and he is just a favorite speaker and thinker because he has such a wide and fascinating set of ideas and logic about how to think of some new things. And I think you are going to find this very fascinating.

Bruce has a PhD in Developmental Biology from the University of Virginia. He is the author of two bestselling books. His first book was *The Biology of Belief: Unleashing the Power of Consciousness, Matter and Miracles*, and his newer book is *Spontaneous Evolution: Our Positive Future and a Way to Get There from Here*.

So, Bruce, welcome!

Dr. Lipton: Ruth, thank you very much and I very much appreciate all the attendees from all around the world; this is a very exciting opportunity for me to share some, perhaps some wonderful new information.

Dr. Buczynski: Great! So, Bruce, I want to start with the whole idea of epigenetics. And *many* of the people on this call are familiar with the term but it is not *that* conventional a term, so I think it is worth asking you to define it, first of all.

Why Epigenetics will Change the Way You Look at the Role of the Mind in Healing

Dr. Lipton: Well, basically epigenetics is simply break down the word “epi-genetics” - “epi,” the precursor, means “above.” And when we say “epigenetic control,” what we are literally saying is “control above the genes.”

"Somewhere...we acquired a belief that genes were self-actualizing; that genes made decisions... all of a sudden the gene would say, "Oh, time for cancer!" and then you would end up with cancer."

And basically this is a really radical change in our understanding about genetics because for years we have spoken about the concept of genes turning on, genes turning off, and genes controlling things.

Somewhere along that path we acquired a belief that genes were self-actualizing; that genes made decisions, that you'd walk down the street and all of a sudden the gene would say, “Oh, time for cancer!” and then all of a sudden you would end up with cancer.

As a result of this, there is a very profound consequence of teaching this to people. Basically we tell people, “Well, as far as we know, at the moment of conception a set of genes from your mother and a set of genes from your father engage to create this future child.” The genes are not picked by us, the genes apparently control our traits. That's the story.

And then you start to realize, “Well, wait a minute, if my life is controlled by genes and I didn't even pick them, and I can't change them.” Then I walk away with the concept of victim meaning, “Oh, the genes are controlling my life and I can't control the genes.” And as a result of that belief, we defer our health and say, “It's not up to us. It's unfortunately up to the genetics I received through my heredity.” So we are like victims of heredity. And we teach that.

This is very, very disempowering, of course. But strangely enough, the new science, epigenetics, completely changes that because what has been found is that genes are just, let's get right to the bottom-line, genes are blueprints. They are actually physical, molecular blueprints on how to make the proteins of the body.

The proteins of the body give us our physical structural characteristics; but the proteins also provide for the behavior because proteins are the molecules that move and change shape, so these are molecules of life.

"...what has been found [with epigenetics] is that genes are just...blueprints."

The character of the proteins are apparently built into the blueprint. Well, for the longest time we gave this blueprint this self-actualization character, but it turns out a gene's blueprint is the same as a blueprint in an architect's office. And why I want to bring that up is because think of this situation, we walk into an architect's office and she is working on a blueprint.

We lean over her shoulder and we ask the architect, “Is your blueprint on or off?” And of course the architect will look at you like, “What are you talking about? There *is* no on and off, it's a blueprint!”

And this is precisely the point. The genes are blueprints but they don't self-regulate, they don't act on their own and they don't make decisions. They don't control anything. Blueprints are only effective if you have somebody who *reads* the blueprint.

"Epigenetics is about the fact that we are beginning to understand who reads the blueprints, who engages the blueprints, and who can modify the blueprints."

Well, this is what epigenetics is all about. Epigenetics is about the fact that we are beginning to understand who reads the blueprints, who engages the blueprints, and who can modify the blueprints. And it turns out it is our perceptions of the world that actually engage these epigenetic mechanisms.

Well, basically all of a sudden what it comes down to is we are not controlled by genes. The genes are controlled by how we respond to or perceive the world around us. And then all of a sudden I thought, "Wow! That's really great!"

If genes control your life, you're a victim because you didn't control the genes that you got.

But if epigenetics controls your life, then you have the option of being a master. Meaning we can change our perceptions! And if we do that, we end up changing our genetic activity.

Dr. Buczynski: What is the danger of practitioners *not* knowing this information?

Dr. Lipton: Well, the danger for practitioners is if they give somebody a future or a fate saying, "Look, oh, you have this chain and therefore you can expect these problems, or this consequence." And when a patient gets a diagnosis, that enters into their perceptions. I mean, obviously I am sitting in the doctor's office, the doctor is giving me a diagnosis that I can expect this cancer.

And consequently, if I am sitting there as a patient and I have the *perception* that I am going to have this cancer, then by definition I am going to engage the mechanisms of perception that will influence the expression of the cancer.

And all of a sudden I'm like, "Oh my goodness! I can think myself or perceive myself *into* a cancer just because I believe it." So the problem is basically to get away from the old belief that our lives are not under our control, that we are more or less victims of our biochemistry, get away from that. And get into the knowing that we profoundly influence the readout of the genes.

"...we are not controlled by genes. The genes are controlled by how we respond to or perceive the world around us."

This is an interesting fact. I like it because it is like the mind-blowing fact. A gene is a blueprint and the readout of the gene is the protein, so we make a protein with a gene. Now, here comes the interesting fact, based on how we respond to the environment around us, an individual can modify the readout of every gene in their body, based on their perception, to create up to thirty thousand variations of proteins from each gene blueprint.

The point is that I have a gene and yet, based on how I respond to the world, I can create thirty thousand variations of that gene, healthy proteins or mutant proteins, based just on my perception. There is a *tremendous* amount of power in the life of an individual to influence their genetic readout.

Dr. Buczynski: Okay. Now, are you saying that *no* diseases are caused by genes?

Dr. Lipton: No, I'd have to be honest, about two percent of the diseases of the world are directly affected by genes.

Dr. Buczynski: What might be one or two diseases that we would say *are* caused by genes?

Dr. Lipton: Oh, hemophilia, Huntington's Disease, a couple of diseases like that. But very few and relatively rare in a fairly large population.

Dr. Buczynski: Right. Like cystic fibrosis maybe?

"There is a tremendous amount of power in the life of an individual to influence their genetic readout..."

Science Update: How the Mind Changes the Body

"...the American Cancer Society came out very recently and said over sixty percent of the cancer that we see in this world is basically due to lifestyle."

Dr. Lipton: Yes. And then they talk about cancer, and this is where the whole thing falls apart because you say, "Well, this person has the BRCA gene." And they go, "Oh, they have this gene, that means they're going to get breast cancer." Well, not really, you know, maybe 50% of the people will end up with breast cancer.

Well, what we have unfortunately done in the past is say, "Well, if 50% end up with cancer..." then we just immediately say, "This gene causes cancer." And we focus on the people that end up with a cancer. What we *unfortunately* do is ignore the other forty or so percent that *have* the gene and *don't* have the cancer.

And this is true for almost everything with genes. We find a certain percentage of people will express a trait and usually an equal or a larger portion of the population with the gene will *not* express the trait.

We never really discuss, "Well, how do the people that have this so-called defective gene, cancer-causing gene or whatever it is, how come they're healthy in spite of having the gene?" And all of a sudden it turns out, well, it is not because of the gene; it is because of their responses to life, their lifestyle, their perceptions, their beliefs.

And in fact even the American Cancer Society came out very recently and said over sixty percent of the cancer that we see in this world is basically due to the lifestyle. This is a radical

"Well, you have the gene but depending on how you live, how you respond, what your belief systems are, the expression of gene could be modified."

change from that “genetic determinism” belief that says, “Oh, you have the gene. You have the cancer.” Now it is sort of like, “Well, you have the gene but depending on how you live, how you respond, what your belief systems are, the expression of gene could be modified.”

I love the epigenetics research in this regard because they have shown, for example, that you can take two genetically identical fetal mice and in one mother, based on her lifestyle, the mutant gene, let’s say the agouti gene which affects cardiovascular system and diabetes, will be activated in this particular mouse.

And then genetically identical fetus in another mother with a different environment, having the same genes, will *not* express the agouti gene. And all of a sudden it’s like “Wow! Having the mutant gene in no way necessarily determined that you would have the effect of the mutant gene.”

Dr. Buczynski: It is a little bit like what we teach in research methodology, correlation is not the same as causation.

Dr. Lipton: Oh, precisely! You know, actually it is interesting you brought that up because years ago I used to try to say that exactly, that we confuse those words, and especially when it gets into the media, the public media, the correlation immediately switches into causation when they write stories.

"...We know now for a fact that...one third of all healing is...due to the ...placebo effect... The perception of the patient is...what is driving the healing"

And so it’s very interesting because what we are talking about, Ruth, is this information we would know as scientists, but the translation of this information when it comes to the public is skewed, so that the public receives really the negative end of what we are talking about. “Oh yes, this gene causes cancer.” Well then any time you talk about that gene, that’s a cancer story.

And yet the reality is, yes, but what about 50% of the people that have the gene and *don’t* have the cancer? That does not come up in the public media. So the public is unfortunately put into a situation of, again, perceiving themselves as victims of genes and not recognizing that genes are modified by the environment.

Dr. Buczynski: So as we go along I would like to pepper this with applications; how does this affect how we would practice; how we would treat our patients to optimize care?

Dr. Lipton: Yes, this to me is the key issue for practitioners. Let’s just go back a step and say something about what we call the “placebo effect.” We talk about the placebo effect and we know now for a fact that one-third of all healings, whether it is drug-related, surgery-related, whatever the technologies, or the approach of the disease, one-third of all healings is actually due to the perception of the patient. And we refer to that as a placebo effect.

And everybody says, “Yeah, yeah, I understand this placebo effect. I believe that this process, technology, medication, whatever it is, is going to heal me.” Take that drug, let’s say, even though it is a sugar pill, you get healed.” What it is really basically saying is that the perception of the patient is actually what is driving the healing.

Now, why that's important is, well, cool, that's a very positive side. We are also aware of the fact that there is something called the "nocebo" effect. And a nocebo effect is that a *negative* perception, a belief that a person is going to have a disease is equally as powerful, but works in the opposite direction of a placebo effect. So while a positive thought can actually *prevent* me from expressing a disease, the negative thought can actually cause the expression of a disease.

"...a nocebo effect is that a *negative* perception, a belief that a person is going to have a disease,...is as powerful, but works in the opposite direction of a placebo effect."

And so all of a sudden we say, well, is it something organic that is causing the disease? And in this particular case, no, it's basically the perception of the patient.

Well that is why I ran into a problem. As a professor of medical school, I am very familiar with the fact that there is some kind of unwritten statement in the profession that says, "Do not offer the patient false hope." Well, the problem with that is, in not offering hope in this case, and saying, "Well, this is what you're going to end up with," that becomes a nocebo effect.

"...there is some...unwritten statement in the profession that says, "Do not offer the patient false hope."...not offering hope... that becomes a nocebo effect."

I mean, obviously you could hook up all patients with physiological recorders, have them sit in the doctor's office, and as soon as the doctor says, "Well I hate to tell you this..." and as soon as that happens you can see all the physiological parameters of that patient just drop like crazy. And the fact is the doctor hasn't even said anything except, "I hate to tell you this..."

And why is this important? Because if we do not offer the patient that there *are* possibilities to get out; "There *are* people that have the same thing you have and live very healthy and wonderful lives." If we *don't* offer that, then by definition the practitioner is really providing only a nocebo response to the patient, meaning, "I'm sorry, there's nothing you can do."

And the moment that happens, that truth will become the biological reality of that patient.

Dr. Buczynski: Let's get down to some actionable steps. What could a practitioner do tomorrow with their patient - let's say they have to give a diagnosis or some test results?

How the Unconscious Mind can be Utilized for Self-Empowerment

Dr. Lipton: I would very fully emphasize what the data is, and say, "Okay, patients that have this characteristic may express this trait." Then I would say, "Yes, but 65% of the patients that have this diagnosis express this trait." And then usually *that* is the thing that sticks into the person's mind.

I would also then say, "But look, there's 35% of the population that *exactly* has what you have and they're doing very, very well. Now, I don't know which one you're in at this point but there's no reason why you can't be in the 35% group as much as the time we estimate that you're going to be in the 65% group."

And by doing that it gives the patient, well, “There is something I can do. There is some hope for me. I may take some action and change this probability.” The doctor or the practitioner doesn’t have to say, “You *will* end up in the wonderful 35% healthy group.”

They really just have to say, “There are people in this group and if we try to understand how they avoided the problem... let me give you a suggestion; maybe there are some things you can do. We have this other diagnosis, but in the meantime, why not try to be in the group that *doesn't* have the problem even though they have the diagnosis?”

It is just to say it is not a one-way thing. And actually give more encouragement because it’s a placebo effect, to say, “I’m not telling you this is the end. I’m giving you a reality that you could not even have any effect.” And you are not saying that they *won't* but at least the patient at that moment has a perception that this is not the end of the line.

Dr. Buczynski: So why does conventional science reject this idea so much?

Dr. Lipton: Well, I have to tell you from my personal side of the story line, number one, I grew up in the field.

I grew up in the regular world of genetics, biochemistry, physiology, everything I was trained in that I ultimately even taught medical students in. This is like “the law,” this is the way it is. And as a result, everybody had very concrete visions of just what to see, of what to expect, and of what is going to happen in the future in regard to health issues.

And then when you come in and say, “But this is not necessarily true,” this is very difficult for people who buy the education of “This is concrete.” I mean, to be honest, when I was teaching in medical school, if I had said, “This is *that*,” then every student wrote that down in their book, studied it, concretized it, came to the final exam. I’d say “What’s this?” And they’d say, “This is that,” write it down and that became the law at that point.

After that it is very difficult, if belief changes occur, to go back into the old program because that means you have to rethink and reconsider everything you were once told as fact. And this is what the whole issue about the evolution that the planet is facing right now. We have been educated with things that we are supposed to think, “These are hard facts!” and all of a sudden we are beginning to find in today’s world that those facts were not true at all.

So that is one thing; it is very difficult after you acquire a belief that “This is a solid fact” to later step back and say “Oh my God! Maybe everything I learned wasn’t actually *right!*” And that is a component of it.

But I think the most, and this is, again, from my personal awareness and being involved in the system, the most resistive factor to the changes are actually coming from the pharmaceutical industry. And the reason is the pharmaceutical industry only makes money when they sell drugs.

“...[Practitioners can] actually give more encouragement because it’s a placebo effect to say, 'I’m not telling you this is the end. I’m giving you a reality that you could not even have any effect'...this is not the end of the line.”

"... from my personal awareness... the most resistive factor to the changes are actually coming from the pharmaceutical industry."

If I could provide a healing that didn't have drugs, it would have absolutely no interest for the pharmaceutical industry. If you could market it and put it in a capsule, *then* the pharmaceutical industry would be interested in any modality, as long as they could sell that capsule.

But when we start to recognize, "My goodness, we're talking about perceptions and beliefs and attitudes," well *that* is not a marketable item. And therefore the

system does everything in its power to direct us away from this new awareness and keep us in the old track, to keep the business model alive.

And that is an unfortunate situation but that is what happens when you build a health system, especially a for-profit health system with this outside source that is controlling health, because if everybody gets healthy then that business loses. It is very interesting, the more awareness, the more intelligence we have, the larger the sicker population is, that fits the business model.

Dr. Buczynski: Okay. Is there any new biology that has been presented about genes that would contradict the conventional thought?

Dr. Lipton: Well, yes, basically the whole thing about epigenetics pulls the rug out from everything. Because if you go back to your education, "genes control things." And again I say, well, if you buy into that then you see everybody as a victim.

"...the system does everything in its power to direct us away from this new awareness and keep us in the old track, to keep the business model alive."

This is such a radical revolution. This is one of the reasons why it is so difficult to bring this in, because people say, "Oh, okay, well epigenetics works, maybe it only works in certain small circumstances" When in fact, no, it is the *new* science, it overrides the old science. And this is really where we have to get back into it.

And you know it is really hard because for years there has been an effort to squash the concept of a mind/body relationship. Let's just be honest, I taught in the medical field, we look at the human body as a vehicle. It's a machine. We can take it apart and look at all the parts and the pieces, label them and see everything and say, "This is a vehicle. Oh, your vehicle's not working right, let me just get you some new parts and put them into the vehicle." That is essentially how we look at a human biology.

"This is such a radical revolution... it is the *new* science; it overrides the old science."

And then I say, you know, that's partially right, that the body *is* somewhat of a vehicle. What they have left out is, yes, the body is a vehicle, but there is a driver. This is relevant because in a regular automobile, if you have good driver education, then the vehicle lasts a long time.

If you have very bad driver education then the vehicle could get damaged and wrecked along the way." And I go, "Well what's the driver education?" The driver education is the fact that you are not just a back-seat passenger in your human body and the

vehicle is driving out of control you actually have the opportunity to sit in the front seat, put your hands on the wheel and if you *know* how to drive the vehicle, you can drive this vehicle healthily and successfully throughout its entire life.

But if you don't understand the conditions of how to drive this fifty trillion-celled vehicle, then you are likely to damage the vehicle.

"Now it is time to really focus on the driver *in* that vehicle and give them the proper education."

So now we turn around and we look at medicine. What is it saying? Oh yes, cardiovascular disease is 90% lifestyle. Cancer is greater than 60% lifestyle and diabetes is lifestyle. Lifestyle is the driving of the vehicle! We have been focusing on the vehicle. Now it is time to really focus on the driver *in* that vehicle and give them the proper education.

Dr. Buczynski: Did the Human Genome Project have anything to shed light on this?

Genetics vs. Environment: How Research into the Mind and its Perceptions Changes this Debate

Dr. Lipton: Yes! That was the fun part! Because the Human Genome Project got off the ground originally by venture capitalists because what they saw was a human body should have 150,000 genes minimum. This was the understanding of science, of how many genes it would take to create a human body because they already found that we had over 100,000 proteins. It takes a gene to make a protein so you have 100,000 different proteins - by definition you must have 100,000 genes. And then you have regulatory genes that control the other genes. So the number comes to 150,000.

They start the project. And it's interesting from a research point of view, when the idea of the Human Genome Project first came up, I thought, "Oh, wow, this is a humanitarian project to make a list of all the human genes!" I could understand that. It turned out it was actually a venture capitalist project because what the pharmaceutical industry saw was every gene was going to be the equivalent of a new drug. So they were very excited, there were 150,000 new drugs on the threshold of being discovered.

"...when the results came in...something was wrong...rather than 150,000 genes...they had found that there were about 25,000 genes!"

And so they go into the project. And then when the results came in around 2001, something was wrong. And what was wrong was, rather than 150,000 genes, they had found that there were about 25,000 genes! Well, wait a minute! A whole science built on a model of how life works and the model says you have to have 150,000 genes, you end up with 25,000. And the point is, "Well, what about the missing genes?" And the fact is they are not missing, they didn't exist!

Well, all of a sudden you go back and say, "Wait! Well then how can I build this complex human body with so few genes?" There are so few genes that the number of genes in a human body are pretty close to the number of genes in some of the most primitive animals on this planet!

And all of a sudden the complete understanding that led us to the understanding of 150,000 genes has *failed!* That meant our belief system of how the human biology worked was *so* wrong that we were estimating 150,000 genes when it only works on 25,000. What does that mean? We don't understand. We *didn't* understand at that time.

Wow! This is completely like pulling the rug out under the belief system! It was such an astonishing finding that the topic, or that part of the results of the Genome Project were not really talked about publicly because it was like, "How do you explain this?"

"...[the fact that 25,000 genes make up human biology]...was such an astonishing finding that the topic, or that part of the results of the Genome Project were not...talked about publicly."

And the answer is: the first way you explain it is you go back and you start over again with your perception about how this thing works because our belief system was wrong. So, indeed, the Human Genome Project said the way we were thinking was totally wrong. And that was the way, that thinking where genes were controlling the world of life. The new science comes out, "No, it's our perceptions that control life."

"Giving the instructions to people about what controls their health and how they can do better will absolutely cut that healthcare budget down to two-thirds, it will probably disappear right away!"

And that, to me, is the ultimate revolution that was necessary to help us evolve this planet. Because we can look at. Right now the cost of health care is undermining every country, especially the United States. The cost of health care is one of the greatest debts to our nation.

It turns out that all this inflated cost of health care is because we have misunderstood how it worked. And as a result, if we give people the power that, "Look, you are involved with your health. You are not just a passive person in the backseat of your vehicle. You are involved."

Giving the instructions to people about what controls their health and how they can do better will absolutely cut that healthcare budget down to two-thirds, it will probably disappear right away! So this is a very important finding because this is the key to bringing health to the world. And this is helpful.

Dr. Buczynski: I have a question, an important question here. What does a practitioner say to a client to help them have this new level of understanding?

Dr. Lipton: Well, I think the first thing is a reeducation because our perceptions are what are controlling our belief system. Our perceptions were acquired through our education processes and primarily through the first six years of our development.

Whenever we learned a skill by observing our parents, our family, our community, whatever we observe in the first six years of our lives that information is actually downloaded into the subconscious mind. We operate from that database of learned beliefs. And these learned beliefs become our perceptions. Not our conscious perceptions, and this is really critical, these are subconscious programmed belief systems that we operate from automatically.

I will give an example of one that applies exactly to what we are talking about here. Look, for years, 100,000 years before medical schools, the human body was very capable of healing itself. We didn't have medical schools, but people healed themselves and took care of themselves. And then we got to a point where all of a sudden education came in and said, "No, you are a victim of these genes and the biochemical forces outside of your control, and we will then be able to heal you, but you can't heal yourself."

"Our perceptions were acquired through our education processes and primarily through the first six years of our development."

So what does that mean? Go back to a child less than six, and listen for the routine program that this child has learned in a conventional family. It is, "Oh, Billy's sick, we have to take Billy to the doctor or mommy's sick, mommy has to go to the doctor." You know, a child for the first six years in a repetitive pattern of learning puts a program into the subconscious. What do they learn about health? That if you're sick, *you* don't heal yourself, if you're sick you have to go to the *doctor*!

And I go, well this is actually the basis of a very funny point. We were capable of healing ourselves innately because that is the design of the evolution of the system. And yet perceptions are influencing the operation. So I have a self-healing system but I put a perception in the front. What is the perception? The perception is before I operate this self-healing, I have to go to the doctor. And the joke is, of course, nobody said the doctor has to do anything special, you basically just go to the doctor!

"...they were able to heal themselves at home, but the perception said,"... you will not start... healing until you go to the doctor."

Well, what's the joke? And the joke is, how many people get better on the way to the doctor or in the doctor's office? And why did they feel so much better just getting to the doctor's office? The answer was, they were able to heal themselves at home but the perception said, and this is where the perceptions interfere with the operation of the mechanism, "No, you will not start this healing until you go to the doctor."

The commitment to go to the doctor, the move to go to the doctor, to be in the doctor's office, that was the first step. Once that step was accomplished then the system would say, "Oh, okay, now we can start the healing."

And so basically we interfered with the healing by the belief system, followed the step, got to the doctor's office and then the healing is able to start to engage itself. So what it basically says is that we must be careful of the education and the programming because this is not just the thoughts in our head, this is how thoughts change the chemistry of the body and the chemistry of the body is what influences health.

As a matter of fact, if I could take a couple minutes here, Ruth, I could simplify this I think and make it very, very simple. My first research forty-three years ago, was cloning stem cells. I would put one stem cell in a Petri dish all by itself and it would divide every ten or twelve hours. So after two weeks I had thousands of cells in my Petri dish. But the unique fact is every cell is genetically identical to every other cell - they came from the same parent!

So I have thousands of genetically identical cells. I split the population and put them into three different Petri dishes. I changed the culture medium, which is the environment, for the cell very slightly. In each

dish I have a slightly different culture environment. I have three dishes. And in one dish the cells form muscle, in one dish the cells form bone, and in the third dish the cells form fat cells.

Now I step back and ask the simplest but most profound question, what controls the fate of the cells? And the answer is, it's not the genetics! They were all genetically identical! The only thing that was different was the environment. The culture medium, the constituents of that culture medium, were involved with selecting the genes and determining the fate of the cells. So I said, "Okay, cool, that's a nice study about plastic Petri dishes and cells."

"...what controls the fate of the cells? And the answer is, it's not the genetics!"

And I will just add one more fact about that. I take my plastic Petri dish and put it into a less than optimum environment. And you can start to observe the cells getting very sick as you do this. And you might say, "Oh, what drugs should you give the cells?" but what I say is, no, you don't give the drugs to the cells. You just take the plastic dish from the bad environment, put it back into the good environment, and instantaneously the cell will respond by getting back to health again."

So basically the state of the cell was a complement to the environment. Okay, now people say, "Okay, Bruce, this is great about plastic Petri dishes and so on, but what about a human body?" And this is the joke part, the human body, by definition, is a skin-covered Petri dish. Inside that human body are 50 trillion cells in this culture dish.

"The brain is the chemist. And our perceptions are translated into chemistry."

And people say, "Well, what is the culture medium?" And I say, "The blood!" Well, okay, the blood is the equivalent of the culture medium, which is the medium in the dish which just happens to be a skin-covered dish. And I say, "Okay, but what adjusts the chemistry of that blood? Because when I change the chemistry of the culture medium, I change the fate of the cells." I say, "Oh! The brain is the chemist. And our perceptions are translated into chemistry."

So I'm sitting here, I open up my eyes. I see my beautiful partner Margaret in front of me, guess what kind of chemicals come out of my brain? Oxytocines, serotonin, growth hormones, and dopamine. I say, "Oh, wow! That chemistry when I put it into the culture medium provides health and maintenance to the system and encourages its growth." And that is why, very simply, when you open your eyes and when you're in love, you can feel it in your body! You've changed the chemistry for absolute growth and harmony. And that is why people in love are *so* healthy.

The same person sitting in the same place opens their eyes and sees something that threatens them." They say, "Oh!" Well now, in that case, I start to release inflammatory agents, histamine, and stress hormones. I say, "Oh, well that changes the culture medium. Yes." and the culture medium controls the fate of the cells.

So all of a sudden with those chemicals in my blood, now I shut down the growth and I actually get into a protection posture which prevents the growth and maintenance of the cells. So I say, "Wait a minute!" Whether it's a skin-covered dish or a plastic dish with cells in it, if you put the dish in an environment that is supportive, then the cells will be healthy. And if you take the cells, whether it is in a skin dish or plastic dish, and put it in a less optimum environment, then the cells get sick. And this is independent of the genetics.

And so why is this relevant? Because if you look at the way we train people in health, they look at the skin-covered body and say, “Oh, that’s a genetically-controlled mechanism.” If you understand it from today’s perception, especially with epigenetics, you recognize this is an *adjustable* culture and the cells will respond to become a complement of the environment. You have a poor lifestyle, that environment will generate poor health. You change the lifestyle and that change will immediately change the genetics and health will return.

A great example is Dean Ornish, the wonderful physician from the Bay Area who worked with cardiovascular patients and showed how environment can *completely* reverse the effects of cardiovascular disease. Recently his study was on prostate cancer patients. He divided the group in half. One got the conventional treatment and the other group got lifestyle changes, how to eat healthier, stress reduction techniques, and meditation techniques.

They didn’t get the drugs! They checked the genetic readout and compared it to the genetic readout before they started the process. And in two months, just by changing lifestyle, the patients had changes in over five hundred genes. Many of those genes are genes that were listed and associated with the prostate cancer and the changes actually reversed that function.

And basically it is a demonstration of *exactly* what we are talking about. You don’t try to physically change the mechanism, you just change the perception and response to the environment. The genes will change automatically and become healthy again.

"You don't try to physically change the mechanism, you just change the perception and response to the environment. The genes will change automatically and become healthy again."

So basically say, “Wow! Instead of focusing on a person’s degenerative effects and looking at this old vehicle and maybe I can replace some of the parts and bring them back to health,” it says, “No, no, just deal with the perceptions and the belief systems, the emotions, and the lifestyle and health will come right back to fullness again.”

Dr. Buczynski: So if you were a pediatrician or a nurse practitioner, I am just trying to bring this into application, what would you recommend if they were talking to a parent in that capacity?

Dr. Lipton: Yes, the thing that I would present right away is to return the power to the parents as important determinants of their child’s genetics. Parents, by definition, are genetic engineers because *they* shape the environment in which their children live. And so *their* lifestyle is then passed on to their child and the child then adopting that lifestyle will manifest the same physical issues that the parents are having problems with.

And a very interesting point, they were looking at the consequences of a child adopted into a family with cancer. They did a survey of adopted children who end up in families where cancer is running in the family. And they found that the adopted children would get the cancer with the same propensity as any of the natural siblings of that family, meaning here is a child with totally different

"...just deal with the perceptions, the belief systems, the emotions, and the lifestyle and health will come right back to fullness again."

genetics who gets pulled into the family and then gets caught in the syndrome of cancer that is running in that family.

It wasn't the genes that were really creating that cancer. It was the lifestyle that the child acquired by downloading it from observing the parents. So that is why I emphasize the nature of conscious parenting; meaning that the child's function for the first six years is to focus and observe the parents in their behavior. And they observe the parents full-time. While, the parents are not even observing their own behavior - the child is observing it!

The issue is, the first six years, the child learns behavior patterns by *direct* download from observing the parents. If the parents have a bad lifestyle, this is when the child will pick this up. And this goes into the subconscious mind of this child, where it becomes automatic default programming. So the subconscious represents essentially default programming.

And what parents haven't recognized is their behaviors, their attitudes, their responses to the world are absolutely being recorded by this child. In fact, if you understand the nature of this parenting thing, from the moment this infant is born the first thing it will do is focus on the parents' face.

And the significance about that is the first thing a child learns is to read the face of the parents. Are they happy or are they scared? That is basically what the child reads. Because from that point on, once that is understood that an infant, when it is exploring its world, the first thing it will do when it sees something new is turn and look at the parent's face.

"...if you understand the nature of this parenting thing, from the moment this infant is born, the first thing it will do is focus on the parents' face."

And the reason for it is very simple, because nature put in this design that if the parent is shocked, wherever the child is, let's say the child is at the top of a stairway and the child looks back at the parent and the parent is like, "Aaghhh!" the child will learn from looking at a face that, "This is dangerous." I mean, basically the child learns to go where the parent's face is saying, "This is okay" they're smiling or they're happy, cool. And if the parent is upset then the child will actually move away from that. That is the first learning experience. It is instinctual.

And so basically the parents become the shaper of this child's experiences, what the child should do, and what the child should run away from, by looking at that.

Or here is the relationship, then again, to the parent, this is so simple, a child is on a swing set in a playground. The child falls off the swing. First thing the child does is look at the parent's face to see if the parent is like, "Aaghhh!" in shock, the child will cry because it is like, "Okay, something's wrong." If the parent, on the other hand, says, "Okay, get up and dust yourself off and get on with it," the child will get up and there will be no problem!

The fate of that child is determined by the parents' response. The child learns this. Everything the child learns from the parents, as behavior is translated genetically, so whatever the parents' behaviors are, affecting *their* biology and *their* health, when the child learns those patterns, the child will express the same consequences in their physiology.

Cancer runs in a family not because of their *genes*. Cancer runs in the family because there are lifestyles that don't support health, that ultimately lead to that cancer, so passing them the lifestyle.

"Cancer runs in a family not because of genes. Cancer runs in a family because there are lifestyles that don't support health."

So, there you go! What is the importance of parents? They are genetic engineers. Their response to the world that they show to their children becomes their children's response to the world. And all of a sudden it is like, "Oh my goodness - parents never really realized how important they are." Even during the fetal stage, the genetics of the fetus are altered by the mother's response to the world. And you say, "Well how can *that* occur?" And you go back to the simple part again; whether the cells we are talking about are the cells of the mother's body, or they are the cells of the fetus's body, the cells respond to the environmental cues.

"[Parents] are genetic engineers. Their response to the world... becomes their children's response to the world. Parents never really realized how important they are"

When a mother is feeling happy, then the emotional chemistry in her blood that she is responding to in this happiness, that chemistry crosses the placenta. The fetus is already responding to these emotional chemicals even though the fetus doesn't even know the reasons yet! But it can understand what happy is. If the mother is afraid and stressed and stress hormones are in her blood because of what is going on in her world, *those* stress hormones cross the placenta and also affect the child.

And this is so profoundly important. Let me just give you a meaning behind it. When you are in stress, the stress hormones redirect the flow of the blood in the body because they are getting you ready for fight or flight. So the stress hormones get into the body and redirect the flow of the blood to the arms and legs. That is the protection mechanism.

It's also, in the brain, when you have stress hormones in your body, you constrict the blood vessels in your forebrain so that the blood preferentially goes to the hindbrain. This is where the brain controls reaction and responses to the environment, stimulus responses. So when you are thinking, you are using the forebrain. When you are reacting you are using the hindbrain. So the biology of stress redirects the flow of the blood from the forebrain to the hindbrain to encourage that.

So I say, "Cool, the blood flows change when you are in stress versus when you're happy." And I go, "Oh that's nice. What does this mean for the fetus?" The fetus's body develops in response to the nourishment it gets. Whatever tissue gets more nourishment grows faster. And I say, "Okay, what is the consequence of a fetus that is in a mother that is stressed in the world that she lives in?" The stress hormones from the mother which cause her blood to go to her arms and legs and get ready for fight or flight and cause the blood flow in the brain to go to the back.

That happens in the fetus. But the fetus is growing very quickly in response to nourishment. So I say, "What will happen to a fetus that lives in a mother who perceives the world as stress?" And the answer is, the blood flow in the fetus will preferentially go to the arms and legs. The fetus will be bigger! More muscular! And what about the blood flow to the brain? The blood flow in the brain of this developing

"...if the world really is a struggle, as perceived by the mother, then a fetus that grows up with these characteristics, a bigger physical body, a better coordinating hindbrain; this child will survive better in a stressful environment."

fetus, rather than the forebrain, will emphasize the development of the hindbrain."

And I say, "What have you done? You have changed the genetic readout of this fetus to create a street fighter."

And the reason why is, if the world really *is* a struggle, as perceived by the mother, then a fetus that grows up with these characteristics of a bigger physical body and a better coordinating hindbrain; this child will survive better in a stressful environment.

But what is the consequence? What if the child were in a healthy environment, a happy environment as perceived by the mother? The blood then goes into the viscera, all the organs of growth, maintenance and health of the body get nourished very well. The blood actually feeds the forebrain so the child becomes more intelligent.

And there is data now to reveal that 52% of a child's IQ is environmentally determined, If a fetus grows up in a mother who is totally stressed, you can short the intelligence of that child! Again, it is compensation, this child is going to be a heck of a street fighter! But intelligence-wise, it is going to lose a lot.

"...if the child were in a healthy, and happy environment as perceived by the mother. The blood goes into the viscera; all the organs of growth, maintenance and health of the body get nourished very well."

So basically, parents are *profoundly* important in shaping the genetic expression and health of their child. And here's a fact, the American Medical Association has recognized this, I have articles in *Science* from ten years ago, but finally the AMA recognizes that the fundamental cause of most adult diseases, cancer, diabetes, obesity, issues like this, is related to life experiences in the fetal and perinatal period of the child's development.

So all of a sudden we realize that genetic switches that ultimately control our life were first programmed during this important introduction to the world, and the relationship of the parents is instrumental in which genes are going to be selected in their fetus, which then in turn is instrumental in the health of that child in his future life.

"...the fundamental cause of most adult diseases, cancer, diabetes, obesity, issues like this are related to life experiences in the fetal and perinatal period of the child's development."

Dr. Buczynski: But it is beyond the child's birth period and ongoing process isn't it, throughout life, even when the child is no longer living with or influenced by their parents, there is still a sense of epigenetics in their life?

How the Mind Controls the Body

Dr. Lipton: Every day! That's why people can have a spontaneous remission of a cancer. The moment they can go back in and *change* the fundamental program, *that's* when they take power back over their lives. But I said, "Well, where did the fundamental program come from?" And that is what we were talking about, the first six years is a developmental period by nature to set the switches and behavior of this child that would shape it for the rest of its life.

Now, the issue, as you just brought up, is critical. Once we become *aware* that these programs are shaping us, our subconscious programs, then, for the first time, we say, "Well, wait, if I want to change my life, then I really have to go back into the subconscious and correct them." And here is a simple reason, because neuroscience comes down to the conclusion that only about 5% of our life we run with our conscious creative mind, while 95% of our life is actually coming from the programs in the subconscious mind.

And this is where the disconnect comes from because we'll be saying, "Oh yes, I'm running my life with my wishes and my desires," and then science comes back and says, "Well, not really, only about five percent of your life is run by that. 95% comes from these programs." The programs that I'm talking about? Fundamentally these are programs that you received in the first six years of your life.

"...it is only about 5% of our life that is run with our conscious creative mind, while 95% of our life is actually coming from the programs in the subconscious mind."

That is why when we go back in the child development and look at the EEG activity of a developing child, the state of EEG called Alpha, which is consciousness, doesn't become a predominant brain state until about age six. The previous six years of this child's life is primarily in theta, a state of imagination. This is why children, two to six especially, mix the imaginary world and the real world seamlessly, because the brain operation is predominantly in theta. Well, theta is also a hypnagogic trance.

So, simple point is, nature is brilliantly intelligent. Nature says, "Here's a sperm. Here's an egg. This is going to make a child." But then nature is going to have to say, "But I don't know what the world's going to be like when this sperm and egg finally come together so I can't determine fully the traits of the child that will make it best survive."

So nature says, "Look, here's what we'll do, we'll have an open window. We will keep the first six years of this child starting in fetal development." The first six years, the system is responsive to the environment. and the parents are the interface. And so the parents' programming is just downloaded hypnagogically by a child as the fundamental operating principles in the subconscious mind.

And then I say, "Now the rest of your life you go through your life and you think that you're running your life with your conscious mind. Neuroscience now tells us, "Yes, but only 5% comes from that 95% which comes from the fundamental programs and subconscious." And I go, "Oh my God! The fundamental programs are not even *ours!* We downloaded them from other people!"

So as we are living our life with our wishes, our desires, aspirations and hopes, which are the substance of the prefrontal cortex forebrain region consciousness. Then we find we struggle, and we have health issues, and we have all these other things. And it's like, "Well, *that* wasn't in our conscious wishes

and desires.” And I go, “Yes, but you’re not using that. You are really operating from 95% from the subconscious.” And people say, “That’s a *very* large number.”

And here is the reason why. The conscious mind is not time-bound. The conscious mind can think into the future; be creative. The conscious mind can review the past. The conscious mind can disconnect from the current moment and solve a problem. So *that* is the crux of the issue, the conscious mind, not being time-bound, is always travelling! Well, the issue is the subconscious mind *is* time-bound, it only works in the present moment.

“...the crux of the issue, is that the conscious mind, not being time-bound, is always travelling! ...the subconscious mind *is* time-bound, it only works in the present moment.”

“...the parents’ programming is just downloaded hypnagogically by a child as the fundamental operating principles in the subconscious mind.”

So if the conscious mind all of a sudden has a thought, and by definition is not paying attention to the current moment; and then the moment that it is thinking of something, then by definition the subconscious has to run the show because the subconscious is in the present moment.

So basically that is why the numbers are so funny, 5% of our life we are actually consciously focusing on being here now and 95% of the time the conscious mind is flitting around all over the place. And in the process of

flitting around, is not paying attention, then by definition the default is the program in the subconscious.

And now all of a sudden you realize, “Yes, but those programs aren’t yours, you get that from other people.” So essentially we are living other people’s lives 95% of the time. And then the joke, as I present it in lectures, says “Here’s the other problem, if the conscious mind is not paying attention then it doesn’t see or observe the behavior that is coming from its own subconscious.”

And that is why when I tell the audience in a lecture, I say, “Look, you have a very close friend, a personal friend. You know your friend’s behaviors very, very well. And you happen to know your friend’s parents.”

And one day you casually volunteer and say, “You know Bill, you’re just like your dad!” That’s when you back away from Bill because Bill is going to vent, “How can you compare me to my *dad*?” and the joke of course is, “Well everybody else can see that Bill behaves like his dad; the programs that he got from the first six years. It’s only *Bill* who doesn’t see it!”

And then the profound joke is even bigger. We are all Bill. Every one of us has been operating with subconscious beliefs that we don’t see because they are automatic habits that play when my mind is off somewhere.

We are very much unaware that we are generally engaged in behaviors that are sabotaging our health and the issues that we really want in life because the

“...5% of our life we are actually consciously focusing on being here now; and 95% of the time the conscious mind is flitting around all over the place.”

behaviours were programmed into the subconscious in the first six years. And it wasn't an accident. It was intention by nature to do this because nature said, "I can't tell you, the world is always changing, I can't select genes for a future child until we know what the environment is all about." So the epigenetics becomes very critical in this first six-year period and this is what shapes our lives, especially our unconscious lives.

Dr. Buczynski: So what is the single most vital piece of information that practitioners can use out of this with their patients? The single most vital piece of information?

"We are unaware that we are generally engaged in behaviors that are sabotaging our health and the issues that we really want in life because the behaviors were programmed into the subconscious in the first six years."

Dr. Lipton: The most important understanding is when a patient comes to see you, they come to see you because they recognize you are the professional. The programming of that child in its first six years, that very important part of the first six years of learning is that there *are* professional people who know things. If *you* are not the professional you don't know things, so by definition the first six years say, "Whatever the professional opinion is, that is the most relevant truth in your life."

When a person comes to you, they take your words as a truth that shapes their lives, just a general statement, okay? And the significance, then, is, what you say, just like the parent, to that young kid, what *you* say and what your responses are to the situation are going to be taken by that patient and turned into their biology.

If you emphasize the negative aspects of everything, then that will actually be the manifestation of the conventional patient. The only patient who doesn't have that conventional response to the doctor is the patient who finally says, "I give up. I'm not buying that story. I'm not putting up with this. I'm going to do my own thing!" And those are the only ones that actually have an option to do something different!

So if I were a practitioner, I would say, "Okay, here's the whole story. This is the negative side and this is the positive side." I would start to emphasize, "There are things that we can do that are *positive*." And why is that relevant? Because as soon as you give that to the patient they are going to at *least* start to put in the right chemistry in their body to support themselves from the brain's translation of what you just said. As opposed to if you scare the patient you will actually shut down the growth and the immune system because that is what fear does in a patient. The stress hormones shut down the growth and shut down the immune system.

"...if you scare the patient you will actually shut down the growth and the immune system because that is what fear does in a patient."

So all of a sudden, you see, responsibility of the practitioner is essentially equally the responsibility that we were talking about in conscious parenting, your words will manifest as reality for the patient, in most cases.

Dr. Buczynski: Okay. You know, I'm sorry, we're out of time and this has flown by so quickly, and I have many, many more things that I had in mind to ask you and to talk about.

But everyone on the call, thank you so much for being part of the call. I know you have sacrificed to be here, whether you had to rearrange patients or skip your lunch hour, or get up in the middle of the night, or stay up very late, or get up early, Thank you for participating in our global community.

And now I am about to send you an email, and in that email will be a link to the Comment Board. I would like you to go to the Comment Board and talk about how you are going to use what you heard tonight. What will you do differently with your patients tomorrow as a result of what you heard tonight? When you do this, please put your first and last name, your city and state or country, and your profession and then tell us how you are going to use what you heard tonight.

I am also going to send you in this email a link to Bruce's two books. The books, again, are *The Biology of Belief: Unleashing the Power of Consciousness, Matter and Miracles*, and also *Spontaneous Evolution: Our Positive Future and a Way to Get There from Here*. So I am going to send you a link to those. I will send you the link through Amazon, which is probably the least expensive and most accessible way to buy the book if you are interested in buying it. I am not pushing that you should buy it, you could go to your library and get them to order it. But you can take the review and read all about it, and see how *many* folks have commented on this book in Amazon.

Meanwhile, thanks so much for being part of the call and Bruce, to you, thank you so much for all that you have shared with us tonight and for how diligent you have been about studying this, even in the face of a lot of controversy and a lack of support, really, from our general scientific community. Thanks for hanging in there and sticking with it!

Dr. Lipton: Ruth, thank you and I really want to thank all the practitioners online because you are the interface for people to see health in this world. And if we work together we can certainly create a much healthier, happier world. And we are really instrumental in this, so that everybody out there is playing a very, very important role in our planet, in our civilization and I thank them for it.

Dr. Buczynski: Thanks Bruce! I also just want to take a moment to thank everyone who has been a part of this series. I'd like to thank the NICABM staff who works so hard. There are at least 13 people from our staff that worked on this series in one way or another. I'd like to thank each one of you.

I'd like to thank all the speakers who were part of this series and I'd like to thank all of you participants, especially those of you who put comments on the comment board. To everyone who took the trouble, made the effort to call in and be part of this series: thank you so much for being part of this world wide effort to study the *New Brain Science*.

If you're a gold subscriber there's more to come. I'm looking forward to bonus calls and they will start next week. Also, if you're a gold subscriber and you signed up for continuing education credits, you will hear about those from us after the bonus calls.

Once again thank you for being part of this series. Take good care everyone.

"So if I were a practitioner, I would say, 'Okay, here's the whole story, this is the negative side and this is the positive side. There are things that we can do that are *positive*.'"

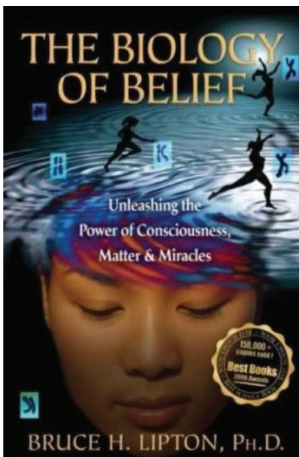
About The Speaker:



Bruce H. Lipton, PhD is an internationally recognized leader in bridging science and spirit. Stem cell biologist, bestselling author of *The Biology of Belief* and *Spontaneous Evolution*, and recipient of the 2009 Goi Peace Award, he has been a guest speaker on hundreds of TV and radio shows, as well as keynote presenter for national and international conferences.

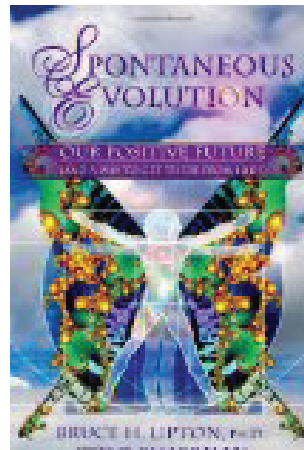
Books by Featured Speaker: Bruce Lipton, PhD

The Biology of Belief: Unleashing the Power of Consciousness, Matter and Miracles



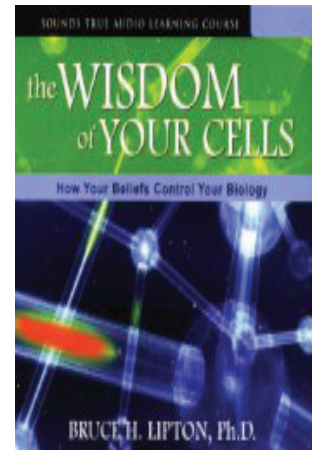
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