Introduction and Bruce Lipton's Mission

– Welcome everybody to the next episode of reversing inflammation, summit body and mind longevity medicine. And I am so thrilled today to have with us a guest that I've read his biology of belief many years ago and was tremendously struck by that.

And Bruce Lipton is our guest. He's a cell biologist and an internationally recognized leader in bridging science and spirit and I just mentioned his best selling book, The Biology of Belief and he has a few other books as well.

I want to give a brief shout out to my to our mutual friend's son and Alan Dell, otherwise known as Dr. and Mrs. Future, have a radio show up in Santa Cruz, where Bruce spends half of the year. And so Bruce, welcome to our program, – Stephen and Robert hiding out there in the dark, someplace Robert Lufkin, MD. And you and I and all of us here sitting here here have a wonderful mission which I'm so happy you invited me to participate in and that is to empower our listeners to recognize that you're not victims of the world, your creators of this world and that if you understand some aspects of that creation, it can enhance your life profoundly. So, thank you guys for letting me join you uh and and play in this room of Great, great, let's begin by you know, one of the early comments in your book, you talk about early in your career, some of your aha moments that led you into this into this field.

Can you share some of that with our audience? – [b]very quickly basically, I was teaching students, especially medical students. The concept of something called genetic determinism.

That was a belief at the time that said, genes control the character of your life. And I have to emphasize because we program the public to believe about this power of the genes.

And I say, well if genes control your life as far as you know, did you pick the jeans you came with? I go, no, not necessarily. I don't know. Can you change the genes if you don't like them? I go, no, no, you can't do that either. And then I add on top and the genes turn on and off by themselves. And all of a sudden you realize, oh my God, that information makes me a victim of my heredity.

The genes control me. I don't control them. And that's where people start to get the belief, oh my God, there's cancer running in my family. I can get the cancer.

Alzheimer's running diabetes. Uh, these are jeans and they come into me and I'm just a victim. That's what we were programming. But my research on stem cells which are embryonic cells in your body.

And let's give a reason why stem cells.

From Genetic Determinism to Epigenetics

So people understand the human body is made out of about 50 trillion cells And the cells are the living entity. Me. I'm a community Bruce is the name for a community of 50 trillion cells. I look like an entity of single entity.

But if you had a microscope, you go, no, he's got 50 trillion citizens in there. And I go, so the significance of all this is that these 50 trillion cells, many of them die very quickly. It's turnovers very quick.

Red blood cells turn over very quickly. Uh The skin cells are turning over very fast, uh and we're losing cells and we're losing, I mean the entire digestive tract from mouth to anus trillions of cells are replaced every three days and everything goes well, wait a minute. What do you mean they're replacing?

Said, well, they're dying. We're loo using cells by the millions every minute. Just millions of cells just popped off. I go, wow, this is scary. I go why?

Because if I can't replace millions of cells, then I don't have a very long life in front of me. I go, no you don't. But we have in our community what are called stem cells, which the original name was embryonic cells. But once you were born, we had to change the name. You're not an embryo.

So now we call them stem cells. They're embryonic cells that replace all the ones that are dying. Do you have embryonic stem cells in your body? Well, if you're watching this program, then yes, you do, because you wouldn't have been alive long enough to watch this.

So all of us have stem cells. And I guess what I said, well, I was cloning stem cells. That just means I take one stem cell put in the dish by itself uh in a culture dish. And it divides every 10 or 12 hours.

So I start with one cell, then there's two, then there's 48 16 doubling at the end of the week. I have 30,000 cells in the Petri dish recognized. One important fact.

All cells came from the same single parent. So that meant all 30,000 cells are genetically identical. Well I split the cells up into three Petri dishes. So three dishes.

But they all have genetically identical cells. And I feed cells in a tissue dish. Something we call culture medium that we make in the lab. But what is culture medium?

This is going to come back and get us in a minute. Culture medium is a laboratory version of blood. I go so what does that mean? I say, cells grown in environment the same in the body where the blood is the environment.

And so I make the tissue culture medium in the lab by mixing the components together. But I can change some of the composition. Which in my experiment I made three different versions of culture medium. Culture medium is the environment in which the cells are living. So I have three different environments.

I say. So what I said, well and culture dish. One with environment a the cells form muscle and culture dish too, With environment B. The cells formed bone and in culture dish three with environment. See the cells formed fat cells, there's one profound conclusion and that is this what controls the fate of the cells, answers. They were all genetically identical.

The only thing that was different was the environment. And all of a sudden back in 1967 I'm doing this research while teaching genes control life in the classroom in the laboratory is like, no, the cells are telling me no, it's the environment that is controlling the genes.

I go, oh wow, it's profoundly different, isn't it? I say, what's the what's the difference I said in the classroom, Genetic determinism is teaching people are victims of their heredity in the laboratory.

The cells are telling me change the environment, you change the genetics. I go, wait a minute, I control the environment. I go, yeah. And then all of a sudden said, well then I'm not a victim of my jeans, since I control the environment, I'm controlling their fate.

I go, yes and all of a sudden then you're no longer a victim. You are a master of your genetics. Well, this is what I found back in 1967 of course, all my colleagues looked at me as I am the loony bin crazy guy because we all know that genes control life except for Lipton and they were trying to tell me I was crazy which for a little period of time to be honest. I thought maybe I am crazy why I believed in this stuff so much and nobody else in the world was believing in it.

So I thought, okay, I'm the crazy guy because crazy people, they believe stuff, they think is real, but they're crazy. And I thought I was crazy and it was interesting because at my first seminar on this topic, I I left the university. Let's go back for a reason.

My research conflicted with what I was teaching and I thought I have to teach according to curriculum, curriculum says I have to teach genes control life.

I know this is not true, and I realized I can't go back in the classroom because I'll be teaching the wrong thing. My option was I left the university, but I wanted to come back, get a scientific opinion about my new research. Oh, I was so excited because I started to understand how it worked and it had to do not with the genes, but with the skin of the cell. The membrane of the cell was the brain of the cell. Just for people to understand the skin of the human is the source of the brain of the human. Same as the skin of the cell, is the brain of the cell.

And yes, I was carried away there Stephen. You can see that. – [s] I love it, I love it. And you you were jumping into my third question, I want to go back to my second one first. Okay, uh and because I'd like us to orient in terms of getting your opinion on longevity we could fit that into your brilliant findings. – [b] Okay.

Question number two. – [s] Number two is what your perspective is on how and why we age and on longevity. – [b] Okay. Well the first thing my research revealed that the genes do not control these processes and so people think genes control longevity.

Say no they don't they don't control longevity. Uh I say one of the aspects that controls longevity is associated with our D. N. A. I. Go what's that?

The end of the D. N. A. Is remember the end of DNA is a double helix. And if the helix at the end opens up so that it starts to spread apart then enzymes will go in there and destroy the rest of the D. N. A. So you don't want the ends of the D.

N. A. Helix to fall apart. Remember the old days with shoelaces? And they had a little plastic cap called it a glitch. They got a name aglow. And that holds the fibers together because if the plastic cap comes off then the fibers Frey.

Telomeres, Longevity, and the Role of Stress

And then you try to get it through the hole. That's when we have a problem in gym. Okay. But what happens is to prevent our D. N. A. From the D. N. A.

From falling apart at the end. There are extensions of the D. N. A. They don't they're not genes. It's just DNA molecules that don't code for anything.

It's just like extra track. Okay. And I go, relevance of this track is called a telomere. I go what's the telomeres? There's an extension of the D. N. A. And I go why do you need an extension of D.

N. A. And the answer is this, imagine my arm is D. N. A. There's an enzyme that called DNA polymerase that moves down the track like a train. And as it moves down it leaves behind a copy of the D. N. A. It just went over.

But I said well what happens when it gets to the end of the track? I say well guess what? It cannot copy the part that it's on because the copy it has to pass over it. But if it passes over it's off.

So I said then what happens is when it gets to the end it can't copy it. So the end is now shorter. The D. N. A. Is a little shorter. I said the next time you copy the D.

N. A. Does the same thing come to the end? Can't copy the end. Now the D. N. A. Is a little shorter. Every time you copy it gets a little shorter the telomere? There's a point if you run out of telomere the next time you copy it, you're cutting into the genes.

And I go what's the consequence? And that is aging depression. And disease starts when we start cutting into the gene program. Okay so the relevance is very clear and that is this is that telomeres allow me to copy the D. N. A. Without cutting off the end.

But that led people to believe well then our life is determined by the length of the telomeres. And this back in the sixties Leonard, hey flicka scientists tried to calculate how much length how much you lose each time.

And if you lose this much each time, how much lifespan can we have before the cells can't copy again about 90 years ago. Wasn't that? It's coincidence we lived 90 years. It should be this way.

So everybody thought human lifespan about 90 years. But a woman, Elizabeth Blackburn discovered an enzyme called when you make an enzyme out of approaching you had a. S. E. Okay so telomere ace till it's called telomerase. Telomerase is an enzyme that makes telomeres.

I said what do you mean if you activate this enzyme you can increase the length. I said well if you increase the length and what are you doing you're extending the lifespan Because now the cells can keep dividing before they reach the end where they start cutting into the gene. So the length of the telomere is proportional to our lifespan. But I say we came with the telomere length but we can increase the telomere length with the enzyme that's where the problem comes because I say whether conditions where the enzyme works and their conditions where the enzyme does not work. I go well if it doesn't work then I can't extend the deal a mirror and my life is shorter. If I can extend it then I can keep going on and on. I go yeah I say so what are the conditions?

And it turns out this is simply the condition how much you want to live? What do you mean? Is that I go it turns out people that whose lives are not supported where they feel stressed out all the time.

They feel like people who have been abused. They do they wake up and say hey another day to get abused. No they wake up going oh my God we gotta go do this again. Uh P. T. S. D.

Abuse very bad nutrition. Uh says I'm not supporting the system and lack of love. Yeah because love is enhances our vitality when you have love you live longer. When you don't have love you don't have that much vitality more. Okay well that's where the physiology turns back into the genetics at this point. Okay uh let me just add this one of the most important things for extending our life is being in service.

What does that mean? That means you have something to do? And your feedback is if I'm in service I have to stay here longer I have a job. I am working. This is why people when they retire frequently just go down off the edge why they're telling themselves I'm done.

I said don't don't say that because the biology will take that consciousness and manifested. But the consciousness is life is struggle. Life is hard, life is abusive, there's no love. I have nothing to do.

You are unconsciously telling yourself I don't need any more life. That's what you're saying. These things inactivate the enzyme that makes the telomere and it's the opposite things that activated.

Like what? Well, first of all enjoying life, if you enjoy life, what you're saying is I want more life. Okay, I have gratitude. I have happiness. I go, yeah, that means, hey, let's keep doing it. This is working okay.

As I said, a diet is really important because that means we're taking care of the machine, which means I'm making an effort to keep it working beautifully.

So let's keep it working. I just being in love being in love. – [s] Yeah, I just in line with what you're saying, I just published a article in psychology today. I said the title is purpose.

Can this be the ultimate and use it or lose it? Well, the answer is from my without reading it, – [b] The answer to me is yes, yes because purpose and that was the one I said about service.

If I have something to do, I'm not ready to finish. And basically that's a feedback system and says well if I'm not ready to finish, I'm not ready to end. If I'm not ready to end, I gotta make more telomere. So the enzymes work with hope, gratitude. Something to look forward to.

Love means, oh, I love my life, I want to enjoy this. Yeah, more life service. These are the things. So all of a sudden says that our longevity is not determined at that moment.

Our longevity is based on how well we can keep supporting the telomeres for growing, which then is a reflection of what we think About our lives and how much we want our lives or how much we're tired of our lives because it's not giving us any joy or happiness or something like that. So all of a sudden I say then, well guess what, how long should we live? It is now estimated that the lifespan of a human minimum 150 years ago, 150 years, we're sure as hell not getting there.

I go, well, there's another reason too. So we have one reason one. Do you want to live 100 and 50 years? A lot of people whose lives are struggle say, God, I don't even want to do this anymore. So 100 and 50 is way out of line.

But there's another factor and this comes into yours and Robert's work and that other factor is simply this is that eating food is shortening our life eating food.

I go, yeah, you know why when you burn fuel, you also create toxic byproducts. So let's say in the car, I burn the gasoline. I said, well then don't breathe the exhaust. The exhaust is a toxic byproduct.

I go eating food has a toxic byproduct called free radicals. Free radicals are charged ions that can punch holes in the cell and when you punch holes in cell you can kill the cells. So the more food you eat, the more free radicals you make, the more free radicals, the more cells you kill.

And guess what? There comes a point where you're killing a lot of cells because the amount of food is way beyond what humans need in laboratory. What they found out was this let's say rats. When I grew rats in the lab, we had a box and then we had a little grill over the box and then we put all the rat pellets so that they could eat. So we didn't give them, here's your breakfast palette and here's your dinner palette.

No, put all the pellets in there, let them eat what they want. They found out that actually if they stopped giving them that much food but actually gave them just the subsistence amount just necessary. They doubled the lifespan of the animals.

And I said, well that just work with rats. I said no, worked with dogs that worked with monkeys and now we have information that also works with humans. We are eating way too much food.

And the toxic byproduct of our diet is in the end killing us and we should be eating subsistence, but we're programmed to eat. Yes, When you were a kid to eat breakfast, that's the most important meal of the day.

And lunch is a great place for a social hang out and eat some food. And dinner is what you're waiting for when you came home. And we focus on this and I go, we didn't need to eat that much food.

And yet, now, guess what? We supersize it? And I go, Jesus now now you're killing us even faster supersized meal. Uh the idea was to go the other way, subsistence, take it down, reduce it down. And the diet that we eat is terrible.

It's terrible because it has too many carbohydrates in it. Carbohydrates were not a mainstay of early humans. They were the concert consequence of agriculture.

Uh, we never ate that many carbs. Carbs are pretty much stamped, destructive at some point, the amount that we eat. Yes Stephen – [s] Bruce a question, I saw a study that said, it's not only the reduction in overall intake, but it's the distribution of how you eat it.

So that if you have periods of non eating that works better than if you distribute, distribute 60% diet throughout the day. Is that your understanding?

– [b] Yeah. Apparently this is a very important part of the whole program is fasting. Okay. Uh and again, I said, why I said look, human physiology did not develop this year.

Human physiology is a million years ago. I go, well what does that mean? I said, well there was no farming and you

could get whatever food you could find. And so that's why they didn't have lots of, they didn't sit down with a thanksgiving dinner anywhere.

They were lucky to get some berries and something they could put in their face. So we grew up in a world with a very small dietary support. And then once agriculture came in then food was unlimited.

And the system now remember before agriculture, if you could find food, you would eat it anywhere. Why? Because you never know when you're gonna find it again.

So there was the idea was if food was available, eat it. Because you don't know if you're going to get another meal in today's world. We're still driven by the same fact, but the food is available, you know, all day long, all year long. And it's like, oh well then the drivers were still eating but there was no need now because there was no shortage of the food. Like it was when we created our original physiology. So uh this is overkill.

We're killing ourselves on that. Okay, So uh that becomes another important part of the longevity is how much food we're eating, how much our telomeres are growing and things like this. So the important understanding is we are shortening our lifespan with our behavior not our genetics.

And I said because it was genetics then we're the victim. But I said no this is environment. Were the creators and if we understand this then what we're saying is to save ourselves and the planet is to cut down the food intake and extend your life. And when people start to do this, guess what? All the diseases that we are really facing start to all disappear. People think diseases are due to genes.

The simple fact less than 1% of diseases connected to genes. Whereas the disease coming from I go 90% of disease coming from the stress. And I say that's the kind of distress can shorten your life.

That's where the problem comes from. And stress is the facilitating uh if I have an option, do I have an option Not your head like that then I'll say yeah I got that.

I got an option Steve talk here right here. Oh okay.

Diet, Fasting, and Reducing Free Radicals

The point I want to bring this up is stress is a protection mechanism. It's to protect us from something that threatens us. And it could be anything. It could be a saber toothed tiger could be a bill from the insurance company.

You know all these things threaten us at some level and we start to stress. And I said well what is stress? It gets you ready to run, fight or flight. That's what stresses get away from this tiger.

Get away from that insurance company run. So the concept of being stress causes us to release stress hormones into the body. I go, yes it does. I said what's the significance of stress hormones? And this is what it's all about, simply this to redistribute the energy of the body into the arms and legs.

So you could escape fight or flight the stress that's pursuing you. So I said well how do you get the energy into the arms and legs? I go well first of all, blood is the source of the energy.

So the more blood in the arms and legs, the more energy you have to use those to escape the threat. So I said well how do you get more blood into the arms and legs? I go this is right out of a physiology book Stephen, you know, this one says when stress hormones are released into the body, the blood is preferentially sent to the arms and legs.

I go, what's that? I say the blood is preferentially going to the arms and legs and stressed because that's what I need to run. So I said, oh big question, where was the blood before?

It was preferentially in the arms and legs? I go it's in the gut. I said, what's the function of the gut maintenance of

the body repairing the body assimilating the food? Getting rid of the waste stuff, filtering all of the systems that's the stuff that keeps us healthy and long life.

And I go, so wait a minute stresses in my life, sabertooth tigers come and go, what stress hormones come in my body? I said, what are they gonna do? They cause the blood vessels in the gut to squeeze shut? I go, why?

Because that pushes the blood from the gut to the arms and legs so I could run? I say so, oh first thing of stress, you shut down the maintenance of the body.

Okay, I go, that's that's dangerous right there. But then I say they, there's a second source of where energy is being used and you don't want it to be used when you're being chased by that tiger and go what the immune system?

The immune system uses tremendous amount of energy because if you've ever been sick, you may not even have the energy to get out of the bed. So I said, well what if you're being chased by a saber tooth tiger and you've got a bacterial infection? I go, how do you want to distribute the energy?

Well, I can give you the answer is simple. The hell with the infection, If the tiger catches you, that's the infection is not a problem for you anymore.

So basically says, well then I don't need the immune system. If I'm being chased by the tiger, I said absolutely not. I say, and this is the part that comes to what the point I'm trying to make after all those words is when stress hormones to release into the body, they shut down the immune system to conserve energy to be used to run away from the threat.

So I said, oh you shut down the immune system with stress or must I say it's so effective that when surgeons are going to take an organ from one person's body and put into another person's body, they don't want the recipient's immune system to reject the organ transplant.

They give the patient before the transplant, stress hormones and that shuts down the immune system. So when they transplant the organ, it's not going to be attacked by the immune system. So stress hormones, oh so so effective at shutting down the immune system.

It is used therapeutically. So I say, so now where are we? I say we're being chased by a tiger tiger. I shut the blood flow down my gut, it's in my arms and legs. I shut off the immune system because I can't afford to waste energy on that. While I'm being chased by the tiger and I go, there's one more, I might as well add the third one because I call this an insult to the injury.

You just got food injury, shut off growth and immune system. You want the insult the conscious mind which is right behind your forehead is creative thinking, but it's a very slow processor. The rest of the brain back here, about 90% is called subconscious mind, which is a million times more powerful processor than the conscious mind and controls the functions of the body, essentially. And I go, so what's the point?

I say if you're being chased by a saber toothed tiger, it's not time to think. Thinking will slow you down. So I said, well what happens remember? I said the stress hormones cause the blood vessels in the gut to squeeze shut and push the blood to the outside. The same stress hormones in the forebrain squeeze shut.

But that pushes the blood to the hind brain. That's where the reactions occur. Reflex reactions. It's fast compared to thinking. So when your stress hormones are put into the system, you close the blood vessels down in the forebrain and operate from hind brain reflexes, which mean we become less intelligent, the more fear you're in, the less intelligent you become.

And the less intelligent you become, the more you look for somebody who is going to save me. The pharmaceutical companies here, we're here to the rescue.

Oh yeah. How much does that cost whatever it costs? You buy it? Okay. The point is what you live in fear, They're offering the resolution and that's what people do.

They buy the resolution without recognizing they could have handled it if they were using their conscious mind, but that's not working. That's the one that shuts off. And then the result is I'm victim victim means powerless, Powerless means find somebody who will protect you.

And that's why we spend our money getting protection from everywhere. So here's the point. Bottom line. Three things a close down the blood vessels in the gut, shut down the maintenance of the body. Be shut down, the immune system, conserve energy so we don't have any problems.

See, shut down the intelligence of the system so that we can use the rapid processing of reflex. And I go, well, this is not a problem. If you're running away from a saber tooth tiger, why?

How long does that run? 10 minutes If you escape to say the tiger in 10 minutes? Guess what? There's no more stress. Oh, everything comes back to order again.

I just shut it down for 10 minutes. Today's world is of course 24/7 365 Stress.

The Cell Membrane as a Programmable Chip

You're dripping stress hormones in your body all day long, all year long and the stress hormones ultimately are debilitating because you can't grow and maintain the body in a state of stress. And if you can't maintain the body in the state of stress, then your lifespan has gotten significantly shorter.

A lot of words. Okay, – there's a beautiful explanation of the impact of stress. It was it was really elegant. Thank you so much. – I appreciate it. But I just also want people to know that 90% of illness is all stress, right? That oh, cancer, let me start again.

Less than 1% of disease is connected to jeans. There is no gene for cancer. There's not one gene I got that gene, I'm gonna get cancer. There's not one gene that causes cancer.

Well then, where the hell is the cancer coming from? The answer is lifestyle and behavior that are not in harmony. And all of a sudden I said, well then to get rid of cancer, do I have to radiate the body and throw poison in there and kill all the cells?

I go, look, if you didn't have cancer and you went through that chemotherapy and the radiation stuff, you would get sick as a dog. And I go and here are people who are already sick and then they push up through all this and they make them sicker. And I go because cancer cells are not the problem. Cancer cells are the symptom of a problem.

The cancer was not caused by the gene. The cancer was caused by not being in harmony with the world in which you live. And as a result you activated gene.

But first the stimulus was not being in harmony. If you want to get rid of a cancer, you don't change the genes, You change the consciousness. – Our our whole summit is body and mind here very much mind.

I just want to go back to one of the things you said earlier, you talked about telomeres and telomerase and ways that we can actually increase telomerase to repair telomeres.

Then you mentioned free radicals and all the things that create free radicals. Is there a comparable mechanism that addresses free radicals or we just stuck with free radicals? – No eat less.

That's the whole thing. Your point. The amount of food is proportional to the amount of poisoning. That's what it basically says. And therefore, overeating supersized meals, not exercising or not using the system, but putting in all that food that's being digested.

Ultimately, the side effects of the digestion process or where the problem comes from. – So you would say, intermittent fasting, repair, free radical production, reduce free radicals and, – reduce it for sure. That's the biggest issue because the fewer cells you kill, the less you're killing yourself.

That's just logic at that point. So, the idea is subsistence diet and um basically a very important reduction in carbohydrates because carbohydrates are a source of major problems. And there's a diabetes type two, diabetes type one, genetic issue diabetes type two is 100% environment.

People have diabetes. Type two can stop diabetes type two as soon as they get back in harmony with the environment against about the eating and the food and what you're doing stuff like that. Great, great story.

I can't remember exactly who it was. Was running a program. It was called raw for 30 days and basically said, they said, look, we'll find insulin dependent diabetics, type two that are using insulin and we're going to promise them something. You come with us for 30 days and eat a raw food diet. You will not have diabetes at the end of 30 days. Well, everybody thought, oh, this is really cool. They signed up for it.

But about day three men, they were climbing the walls because it wasn't Mcdonald burgers, that what they were eating now and their favorite foods we're eating.

But they put up with it. What was the point at the end of 30 days? None of them had diabetes anymore. And I said, yeah, it's environmental, that's why it was caused.

But then came the bigger question I asked them. So what happened when they went home and nine out of 10 of them became diabetic. I say why? Because they went back into the same program, behavior that they had when they created the diabetes, they left it for 30 days outside of their world, lived this other way. Got clear of the diabetes.

But when they came back home, they came back into the exact same environment that precipitated the diabetes. And they got it again, environment is the issue we're dealing with. – So Bruce.

Now, we're going to get back to where you we left off a little while ago about the membranes. You in your in your book at one point, you refer to the magical membrane. – Yes. – Another point, you reword it as membrane. So tell us about the membrane and its importance. – Yeah. When I discovered the research, which was going to become epigenetic where the environment changed the fate of the cells.

The first issue, I have my colleagues as they well, how does that work? I had no idea how it worked. I had the observation that it worked but I couldn't say how it works. So the media they said well no mechanism, we're not paying attention to you.

And so I had to search. I said well what is facilitating this this thing? I said well first of all environmental signals I go yeah but the environmental signals have to get inside the cell.

Well how'd they get inside the cell? Well, first of all they have to cross through the skin of the cell. The membrane. Okay. And when you look at the membrane and electron microscope, it is the simplest little structure so thin that scientists didn't even know cells had membrane until the late 19 forties when the electron microscope was developed up to them. They just thought cells were like jell o with fruit in it and they just holding all the organelles like that.

But then they found all cells have the same membrane. It's a in the microscope. Very so thin. You can't see it with a regular microscope is it's visualized as dark, light dark like an oreo cookie. Okay. And that's all.

It was just simple dark light dark, very thin in biology there is an understanding there was an understanding that complexity is revealed, complexity function is revealed in the complexity of the structure. When you look at the cell membrane had the least complex of any structure inside the south. So me remember now that's just like plastic wrap that holds the cell together. It's not more function than that.

When I started look into the nature of the cell membrane, I started to realize something you couldn't see in the microscope and that is there are proteins embedded into that cell membrane and there are two classes of proteins. One is called receptors in the skin of the cell receptors. I go, well we have receptors eyes, ears, nose, taste, touch, pain, temperature, pressure, I say ah just like the cells are receptors are built in the skin and say, what do they do?

They read the environment then what they send the information to the inside. So the cell adjust its function to deal with the demands of the environment.

So I said, oh my God, the cell is reading the environment and then telling the material inside what they have to do the organelles and what we need to do to stay alive in this environment. So it's like, oh my God, it's the membrane that's doing it. But I had that little simple structure.

Well, I can't remember, I think it was 1985 is the night that I was redefining the membrane in a sense of the biochemical understanding. It's a lipid bi polar lipid layer with hydrophobic and hydrophobic zones blah blah blah.

And I was redefining the membrane and I looked at it and the first thing I recognized the membrane is crystalline because the molecules that make it up aren't all jumbled.

They're all lined up like soldiers on parade. That's a crystal. So I say the membranes crystal, but the middle of the membrane dark, light dark. The light was fat lipid.

And if you have lipid in there it prevents communication from the outside the inside. So I said, oh the membrane is a non conductor, nothing can get across.

Well now you got a problem. How did you get food in? How did you get waste out? I go. Has to cross through the membrane. That's when I recognized the second protein type receptors.

But they're connected to another protein type called A channel. A channel by definition is like a conduit. You know like the english channel. It's a conduit to go between England and europe, it's a channel.

Well in the resting state the protein channel is closed. Let's just look at it this way I say. But when it's activated, the channel opens up and makes a tunnel into the cell and stuff can get into the cell.

I said, oh when the channel opens up, everything can get into the cell. I say, no, it depends on the channel sodium channels that sodium and potassium channels like potassium and glucose channels like glucose in Histamine channels let histamine and I go way, wait a minute. The channels that determine what goes in.

I go yes it does. Then I say are the channels for everything. I say no, only for some things. So I changed my definition. The membrane is a crystal. It's not a non conductor anymore, but it's not a full conductor, it's a semi conductor.

It only lets certain things in. So I write down membrane is a crystal semiconductor and then I said there were two kinds of proteins, receptors and channels. Another word for receptor is gate.

So I said, now here's my definition. I'm sitting there in 1985 and I write down the membrane is a crystal semiconductor with gates and channels. And I go that sounds familiar, 1985. Where I hear that I just bought my first Macintosh and I went to Radio Shack and bought a book called Understanding Your microprocessor.

I said I opened it up there in the first chapter on the microprocessor. It says a chip is a crystal semiconductor with gates and channels. I go, wow, that's pretty interesting. But a coincidence a membrane and a chip have the same definition. I wait and dig a little deeper and I start to recognize, oh my God, they are the same. The membrane is a chip and information processing chip and the receptor and a channel represents a bit of data.

A bit of information input output receptor input channel output. I o bit of data. And I looked and said, oh jeez my the sea cell is a programmable chip, I go and the nucleus the hard drive with programs called genes.

And I say and the surface has the receptors which are like keyboards and the environment signals type on the keyboard. The receptors activate the receptors, send signals into the channel. The channel, activates the proteins in the cell and activates the gene reading.

Oh my God, A cell is a programmable chip in the environment, is the programmer of this chip. And then just like oh evolution.

Evolution, Cooperation, and Community

So the secret here didn't go into it a lot wrote about it but didn't emphasize it. Evolution we used to think was due to more genes. That was a Darwinian thing.

The more genes, more complexity. So we do the human genome project and we have over 100,000 proteins that make up our body. A little fact of biology. It takes a gene to make a protein. So before with the protein the genome was studied everybody go, we're gonna have over 100,000 genes.

One for each of those proteins. Well, the human has 20,000 genes, which meant the entire understanding of how the damn thing worked was wrong when the genome project came out says we don't have that many genes.

And it turns out that actually the driving force of evolution is the nervous system, not the genes. Uh there's a name. Probably, almost nobody out there is gonna hear. Have heard this name, Jean Baptiste De Lamarck.

Lamarck wrote the first theory of evolution 50 years before Darwin's theories. Lamarck is credited as the first scientist to write a theory of evolution.

And his premise was that evolution is based on the interaction of the environment with the organism because the organism is fit in their environment. Polar bears are not in Africa there in the arctic, roses are not in the arctic, there in the temperate zone. I go, oh, organism's environment lockstep interaction. I go, this is what the new signs of epigenetic says. It's the environment that is selecting the genetics to make the organism fit the environment.

And I go, oh wow. Then I go, and here's the part that I took this jump. And it was like amazing! Because I said, wait, then the membranes a chip. And I go, yeah. And I said, well, how powerful is your computer?

And you said, how many bits of data? Oh, in the membrane bits of data, receptor channel complexes. A cell has over 100,000 bits of data in its membrane. And I go, so, oh, this cell is a computer chip.

And I go, yeah, it's just like Texas, Texas instruments, the calculator. That's a computer chip, what's the computer take a whole bunch of those calculator chips and sequence them together and then you get the ability to make a computer.

And I go, your cell is a programmable chip, put them together and community and guess what? It's a multi chip organism called a computer, that's what the brain has.

All the cells are processing information and turning it into behavior and function. And that's why the skin of the cell in both the cell and in the human.

The skin are the source of the nervous system because they read the outer environment and then alter the influence on the inner environment to support life in whatever that outer environment is. And all of a sudden said, you know what this means? The foundation for a theory of evolution that has never been considered. What do you mean?

I said we're looking at evolution is genes. I go, well that already failed. There are only 20,000 genes were supposed to have but we're 100,000. I go the idea of it is this evolution is based on the cell membranes. That if you look at the evolution of cell membranes and then cells and then sells joining together with their membranes with electrical couplings called gap junctions. All of a sudden you start to see these chips are now all being wired. I go, yeah, so I

say, what's the basis of evolution? A bit of data then?

I say you want to know what evolution is about? What increases bits of data. More membrane surface area. I go guess what? You know, the brain's got all those folds in it, Irene sulky surface area.

If you look at a primitive vertebrate, like a rat. The brain is a smooth bubble inside the skull. But when you go up the higher levels the brain starts to have folds in it. I said what are these folds sulking?

And I said what are they surface area? The more surface area in the brain, the more processing. And that's why all of a sudden I said wow that's why we if you take a human brain put it out flat, it's got a large amount of surface area, surface area brain.

And then uh just like the cell the cell can only have so many so much membrane can't make any smarter because a bigger cell is not stable. I say, oh then evolution stopped when the cell was finished.

I go, well yes it did, I said but it didn't. In one way I say why it changed paradigm first was make the smart cell and part two was make the community of cells share awareness. And I go and guess what?

The human brain has a limitation of how much surface area can put into it. Can't make any more brain that can fit in his hand. When the smartest human was created, that was as smart as a human was going to get then I say but evolution stopped by making the smartest human, I said at that moment, but evolution part to put the humans together in community share awareness.

And when we share awareness then all of a sudden we created a new organism called humanity. Each of us is a cell sharing our awareness in a community. Which makes a difference between a single cell and a human. We're all cells but humans have integrated 50 trillion cells, 50 trillion bits of computer processing.

Okay, we have a billion cells out here. That the evolution is come together in community because that's where our advances of human civilization have occurred.

They didn't occur by individuals. They occurred by individuals making advances which collectively made something like how did you make a computer? Well, I forgot what the number was. How many 3000 or more different awareness pieces that were then put together 3000 different bits of kinds of data were put in to make a computer. The more people, the more data, the more data, the more technology, the more technology the more this thing evolves. And we're at an evolution rate that's so fast that it can change from day to day because of the eight billion neurons in a sense that are creating our world and we're facing evolution. What's evolution?

Not Darwin. Darwin was survival of the fittest in the struggle for life, which says screw everybody else. I'm gonna be the fittest. I don't care about you guys because it's survival of the fittest. I go.

That theory is the most destructive theory on this planet at this moment. Because evolution is not competition. Evolution is recognized to be cooperation. And all of a sudden you realize, oh my God, the competition is creating the violence, the war.

The problem why? 1% have the money and the other ones don't Because the competition I go, that's the evolution. – Evolution takes us. It takes us back to your conversation about stress, the stress response.

And now you're talking about the same thing on a community level where if we for focus as a community on stress survival, survival of the fittest, we're gonna have the same destructive results as. – Not going to Stephen Not going to. We are with the self destruction that we created in the environment is matched by the self destruction inside the body, which is referred to as auto immune disease, which translates as self destruction.

So, all of a sudden we're starting to see the issues that come into the body. They're not caused by genes, their autoimmune disease, cancer is caused by not living in harmony in your system. Okay. Uh, diabetes, not living in harmony with nature and the environment. Yes, Stephen, – We're running out of time.

– So we're not Oh yes, we are. – And I had two other points, I wanted to check with you on, let's see if we could put them together because you talk about quantum physics also talk about spirit.

– Yes, very quickly. We live in illusion it's interesting.

Quantum Physics, Spirit, and the Body as a Receiver

Albert Einstein quote, was reality is merely an illusion, albeit a persistent one. I said what's the illusion? The illusion is that there are physical things and non physical things and that says oh well then physical things are made out of physical atoms. And this is where quantum physics came in because in the newton world they separated the universe into matter and energy to different realms that don't interact really. And I said well what a quantum physics find out.

Well they said well what the hell is an atom made out of? Because it used to be adam the word means uncomfortable and then they found that they could cut it and they could open up and there was a little solar system nucleus and electrons running around with different smaller particles, protons, neutrons, et cetera. But quantum physics came into reality when they said what the hell is a proton made out of a neutron or electron?

And they looked inside nothing physical. It's all energy. All atoms are energy. Everything made out of atoms of energy. And we have any illusion that we live in matter. Okay, well the relevance about this and quantum physics is energy. Everything is energy.

All of us are connected together in this energy. There's no border to an energy that says energy stops here and something that starts over here energy mix.

It's like raindrops on a pond. All the ripples are connected. We are connected to energy fields No two people receive the same identity energy field which in in biology we refer to the receptors the antennas that read these energy fields as self receptors. No two people have the same set of receptors reading an energy field and I said what's an energy field?

Well an energy field definition is invisible moving forces that influence the physical world and field. I go oh whoa that's the definition of spirit, invisible moving forces that influence the physical field of physical realm.

I go oh well spirit and field have the same definition. I go absolutely and I go so what's different? I say we are each receivers of an energy field that no one else receives because our receptors pick up that vibration and your receptors don't and no two people share that so we're each downloading.

I say then who are we? I say we're not the body that's the recipient of the field. Simple point bodies like a television set, the broadcast as the field or spirit. Same word field or spirit.

The broadcast that I pick up is not the same broadcast you guys are picking up or anybody else in the audience. I'm playing a show on my tv body so you can say this is tv and you're now watching the Bruce show on this tv and I go significance, this is the whole thing that changed my life. There's one point I go what does it mean?

I say well when you're watching a tv and it breaks, we say the tv is dead? And I go yeah it is, is the broadcast still going ah ha yes it is, get another tv tune it to the station. Same show is on Audi's R.

T TVs. And when embryos are developed they get a set of self receptors. If you die and a future embryo has the same set of self receptors. Your broadcast is now playing through a different tv doesn't make a difference, male or female, no, that's a tv doesn't make a difference, if it's white, brown, black, red, yellow, I know that's a tv, we are not the TVs were the broadcast and I go oh my God you can't die, you're not even in here. And uh so I gotta close with this because it was really critical in my thinking moment, science guy, just finding out, oh my God, I'm a spiritual energy, I'm an energy field that's different than you guys having your own energy fields which makes you different from everybody else.

We're all playing our own station. And then I said I can't die because the field is still there and I was like oh man, it was so great because the fear of death, if you really own this, there is no fear of death because you cannot die and I bought that right away. But then being a science guy, I asked myself a question well my question, I said why have a spirit and the body, why not just be the spirit? I ask that question and that led me to understand I have Jewish comedian cells. I said what do you mean?

I asked the question why have a body and the spirit why not just be a spirit 50 trillion cells answered with a question I said why have both? And this is what the cells said, it is so profound, blow your head ready?

Why have both? And the cells Bruce if you're just a spirit what does chocolate taste like? Think about that, it's deep, it's all deep. It's basically basically says this this is an extension of spirit, it provides things that spirit can't do.

Like see smell, taste, feel, what does love feel like spirit can't tell you that that's an energy field. The body trance. The chemistry of love into energy sending it back to source so that we have an experience of what love is about very quickly. I know you want to end but I want to just add this quickly and we can't go to mars we want to know what mars is like we send up the Mars rover look like a machine. I go yeah but guess what?

It's a human. I said what do you mean? It's got all the receptors, vision sights, sounds everything I said how does it work? I said there's a guy at Nasa he sends the signals picked up by the antenna.

I said then what he drives a vehicle around. Then what the vehicle reads the environment and sends the information back to the guy at Nasa. And the guy at Nasa has an experience of what it's like to live on mars Well, welcome to to the Earth rover. Why?

Because we're getting a signal from source that drives us around, which creates the life we want to have. If we could, that's the download of our spirit and that once we're into this machine, we move around and then we move around and we have all the sensations of moving around and all the experience. But we're also creating.

And this is where Bruce Lipton non spiritual guy wakes up at this moment of time and says, you don't die and go to heaven were born into heaven. I said, what do you mean? I say we're earth rovers were creators.

We're creating what the spirit wants and dealing with the environment of this thing. And I said, but if you you have a desire to make heaven, that's a creation, then manifest heaven, You can do that.

But your programs don't necessarily let us do that. I changed my program. I have been living heaven on Earth for 28 years. Why? I got rid of the programs that took away the vision of the beauty of this place and I want people to understand if there is a heaven right here right here. – It gets us right back to we could sum it all up in what your title of your book was biology of belief.

– That's a good title. – Yeah, it's a great title. And it could be the title of our conversation and it's certainly the title of the television station of Bruce Lipton. – Yeah, this is The Bruce show.

I hope you like it. – I loved it. Thank you so much. It's been a pleasure, really – Stephen, Robert hiding there in the dark. I know you're out there.

Here's the whole idea is I hope the people that listen to this start to get a little idea of it, because most of them see life as a struggle, which is a Darwinian belief that we put into the system and then manifest. And I say, if you understand the new understanding of epigenetic and the concept of Lamarck, which is we are in harmony with Nature. And if we live in harmony with nature, we are gifted and encouraged by nature. One of the gifts is longevity.

If you're really living in harmony, Nature says, come on, stay around here. But if you're one of the people that screwing up nature, it's like we don't need no stinking humans.

You know, when humans are gone, Nature replaces yourself without us very happily. – Thank you so much Bruce. It's been such an enjoyable pleasurable hour and went really fast. – Too fast. – We'll have to do it again.

– I would love to I love working with you guys because I know collectively what you're doing is creating the consciousness. The knowledge. Knowledge is power. And what I try to tell people when I start to lecture. I say knowledge is power and say, I said, wait, wait, let me say in a way that might be more relevant.

I say a lack of knowledge is a lack of power and we as a group have been deprived of the new science. – What is your website or how people can reach you and learn more – Simple, BruceLipton.com And there's so much on everything we talked about and more. The kitchen sink is in there.

There's lots of stuff. It's free download and joy and and the process support my dear friend Stephen and Robert in their program here why they're offering that knowledge the Knowledge, the power to not survive on this planet, but to thrive on this planet. And thank you guys for letting me participate in the show.