

CONVERSATIONS WITH MIKE MILKEN



Deepak Chopra

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Mike Milken: Deepak. It is so great to be with you today.

Deepak Chopra: Thank you, Michael.

I'm so excited to be speaking to the real Deepak Chopra, because I know you've created an avatar. What is your objective with it and how far can technology take your avatar?

Traditionally speaking, neuroscience identifies three brains. The first brain is reptilian, which evolved about 300 million years ago. It protects us in times of danger with what we call the fight-or-flight response. The second brain is called the mammalian brain or the emotional brain, which is only present in mammals, not in reptiles. Primates and other mammals have emotional brains. We have emotional brains. The emotional brain evolved a hundred million years ago and it's more recent than the reptilian brain; we are triggered by emotions. The third brain is the intellectual brain, which is also referred to as the cortical brain and that's only four million years old.

"I see a very bright future. What was science fiction is becoming science today."

Now human beings have existed as homosapiens for 200,000 years. And this intellectual brain, which you are the expert in, has evolved very rapidly in the last 15,000 years

This interview has been lightly edited for clarity and readability.

because of language; first, oral language, and then written language; and then scientific language, mathematics.

But now we have a fourth brain; it's called the digital brain. This is the latest evolution of our brain and the digital brain actually continues to learn with interaction with other intellectual brains, but also interaction with other digital brains. For example, my AI avatar, Digital Deepak, hopefully will soon be interacting with Digital Obama and other people, and they'll both learn from each other. But Digital Deepak can also access libraries, including the Milken Institute library. Somebody asks a question that I don't know the answer, so let me go ask Mike Milken or somebody. It's basically the latest evolution of human consciousness. That's what I call it. It'll grow after I die and it will speak to my grandchildren and their grandchildren and learn from them and also tell them about this conversation, which we're having right now.

I take you back to 1993 when I was diagnosed with advanced cancer and given 12 to 18 months to live. I quickly sought you out because I always believed that the mind could connect to the universe. If you remember, I brought Lori with me, and we went into this mind-body connection and how a person could heal themselves. At the time, I was very focused on how we could generate and strengthen our immune system. Over the last almost 30 years, we've been very active funding that, and that would be the center of much of the new therapies today. The connection of what I learned from you, the second brain, your digestive system in India, that you can change your microbiome in a very short period of time. So link your avatar to learning, to mind-body and to our second brain.

Michael, we've come a long way since 1993 because much of the science was not there, which is there today. You said mind can connect to a bigger universe of mind, and this is one of the latest issues of *New Scientist* magazine from Britain. You can see, is the universe conscious? It sounds implausible, but that's until you

do the math. So this is 30 years later. We were talking about this 30 years ago. Now also 30 years ago, we did not know in Western medicine that 90 percent of our genetic information is not human. Less than 10 percent of the genes that we have are human. Only 25,000 genes are required from our parents- your father gave you half, mother

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gave you the remaining half, 25,000. But you have two million to 20 million extra genes that are bacteria, and they're called the microbiome.

As we were talking the other day, one teaspoon of soil under the surface of the rain forest in the Amazon contains more genetic biodiversity than all the rain forests combined. So, there's a planetary microbiome that recycles as our human gut microbiome. If we destroy that microbiome, which is happening in the Western world – 30 percent of the microbiome has disappeared. It has disappeared because of industrial food production, which is focused on specialty meat production, which is factory animals are given antibiotics, hormones, inflammatory products, all kinds of preservatives, which totally inflames the animal and the animal microbiome. Also there's food that has concentrated

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sugar or food that has been pumped up with steroids and antibiotics and inflammatory products like insecticides and pesticides that destroys the microbiome. So 30 percent of the microbiome has disappeared.

Right now, there's a big movement, farm to table. Even people who eat meat are advised that the meat should come directly from a farm without the intervention of a factory. But the bottom line is 90 percent of our genes which we have in our body are not human. That DNA is not human. They can be changed

by our diet; you can change 90 percent of the genetic information in your body. Now, if you add to that things like meditation, exercise, deep breathing, emotional engagement, good sleep, some connection with nature, then the 25,000 genes that you have that are human, you can't change them. You got them. That was like the deck of cards. That was dealt. When you were conceived, you can't change them, but you can change their activity. That's called epigenetics. And every experience changes the activity of these genes. So right now, as we're speaking, the genes that regulate the activity of our brain are changing as a result of this conversation. It's amazing. We didn't know that. Every experience changes genetic activity. Now we know that the pillars of well-being like sleep, meditation, mindfulness, mind, body coordination, deep breathing, emotional resilience, love, compassion, joy, empathy, equanimity, a connection with nature – all these things can actually upgrade the human genes too.

We just did a study with Elizabeth Blackburn, a Nobel Laureate, where within one week we showed that in a retreat setting with the proper diet and meditation, we changed the genetic expression of human genes dramatically. So, genes that cause self-regulation, homeostasis, healing, went up 17-fold over baseline. The enzyme telomerase, which

regulates how we age went up 40 percent. And finally genes that cause inflammation went down drastically. Gene expression is a complex interaction of how we live our lives, how we think, how we behave, how we speak, what we eat, how we interact with each other. How we behave in a civil society can influence gene expression. No drug can replicate that.

That is why, if you remember, for two years I did not eat anything except fresh vegetables ...

I remember ...

... and fruit. I didn't want to change whatever their molecular makeup was. You gave me my short mantra, my 15-minute mantra and my hour-and-a-half mantra. My long mantra, in that I was going into MRI machines constantly that took an hour and a half. I told you in March 1993 that I needed a long mantra so that I could put myself out in a trance. I told you that I've always believed in The Force – you can feel it when something's going right, or something's going wrong. People call it the sixth sense. But to me, you can sense it. The week that I had spent with you has dramatically changed how I've lived my life over the past 27 years, Deepak.

Thank you, Michael. I think what they call miraculous healings are epigenetic modifications of gene activity that decrease inflammation, activate the genes for self-regulation and homeostasis and decrease the gene activity or those genes that cause inflammation. And of course, we now know that the microbiome plays an important part as well. So we may soon have a science; I hope it's already there for what people used to call miraculous healings. But today they call them spontaneous remissions. There's

nothing spontaneous actually about them. The evidence of inner healing, because our body is built over millions of years of evolution to regulate itself. It's a natural thing. We call it homeostasis. It's not a miraculous thing. It's just what the body does.

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Every biological organism knows how to self-regulate, but now we have the signs. You know, incidentally, much of the science owes a lot of gratitude to you because you're the first one to show that prostate cancer can be reversed. You're the first one to show through your example, but also through all the signs, that we can reverse prostate cancer. The future of medicine and well-being will be exactly that very precise, very personalized, very predictable, very measurable, and also through deep learning and

through artificial intelligence ways to accelerate that. We can actually take somebody before and after and see how genes change. That science was not there 30 years ago.

We're an unusual point in history. The coronavirus, which has spread throughout every country in the world, most of the people who have died is because they hadn't seen this virus. So they called up their immune system. The analogy we made was all the branches of the military – the Army, the Navy, the Marines, the Air Force, and the Coast Guard – have been called up. This overstimulation of the immune system eventually is affecting the lungs, breathing, etc., and has with pneumonia been the major cause of death.

In the cancer area, as we've developed these immunology agents over the last three decades. In order to succeed, they had to control the immune system so that as they energize the immune system to deal with cancer, they were still strong enough to put your cancer into remission, but not that strong that they cause you to lose your life through an overstimulation. In the prevention area, what could we do if we do get the virus to lessen its effects? We know if you have high blood pressure, it can affect you. How can we reduce our hypertension? We know if you have diabetes, it can affect you

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negatively and more seriously. So what can we do? And with a large percentage of the population pre-diabetic, is there a way in prevention we could interact? How have you viewed the first six months of 2020 in this coronavirus that has gripped the world? And what learnings could we apply here?

Michael, this is a very important question. In fact, that the opportunity, because we are on sequestered and we are all under quarantine, I have the opportunity to look at all the research and all the data. As you mentioned earlier, the elderly who get sick, have some kind of chronic illness already; diabetes, hypertension, heart

disease, cancer, or terminal, maybe another infection. And when you look at these people, they also have chronic low-grade inflammation. All of them. So low-grade inflammation and elderly people on several medications with chronic illness are at risk already. But young people who are getting sick and dying from it, in addition to the chronic inflammation which they may or may not have, they have acute inflammation. Acute means they have an inflammatory storm. It's called a cytokine storm. And all the people who are getting sick right now, are having those cytokine storms.

What causes the cytokine storm? Numerous things, but predominantly stress. So when you are stressed, the sympathetic nervous system goes on overdrive. Overstimulation that causes these storms. We can prevent this through lifestyle, through deep breathing, through meditation and through change in diet. So, the answer to your question in one line would be do everything possible to decrease inflammation.

So we see in cancer, Deepak, as you know, that probably 60 percent to 65 percent of all cancers can be traced to inflammation. What I've learned over five or six decades is, it's hard to preach to a person for them to change. If they can have self-discovery in any way, their view of the world might change. Now, my view of the world changed dramatically because I needed to find a way to sustain my life. I had lost 10 relatives to cancer; mine was more advanced than theirs. I had to think, what did they not do? None of them changed their diet. None of them meditated. None of them tempted to change their lifestyle, but were totally dependent on whatever Western medicine was at that time in history. How do you interact with groups where this is not what they've learned?

You start from where they are. One hundred years ago, the average age of a human being in the United States was 49 years. Our grandparents, their generation, the average age ...

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You're speaking about life expectancy was 49.

Life expectancy, 49 years. Today, the fastest-growing segment of the American population is over the age of 100 fastest-growing segment. So it's dramatic in the last 100 years. The major scourges of humanity have been wiped out like smallpox or the plague, but we still have in the world tuberculosis, malaria and some of these diseases are still there. But in our society here there's very little tuberculosis and malaria; AIDS is still a problem, but now we have modern epidemics. As you said, hypertension, heart disease, cancer, autoimmune illnesses, and these unusual infections that occur as mutations or viruses, because I believe of an unsustainable stressed ecosystem of the microbiome. We still have to prove that, but I think that's going to be the new science. How do mutations occur as a result of the stressed microbiome, inflamed microbiome?

But today also the good news is that almost every medical school gives students an option to train or get some training in what is called integrative medicine. At UCSD [University of California, San Diego] where I'm a professor in the Department of Public Health, we have medical students now taking internships and residencies with integrative medicine. That's a huge development. The technology part, unfortunately, is not coming from academia. It's coming from startups in California and Silicon Valley, and people like yourself. The future is ultimately unpredictable, but it looks amazing to me at the moment, especially because we have science and technology to measure. You see, 30 years ago, this was not measurable. Today, because it's measurable, I see a very bright future. What was science fiction then is becoming science today.

One of the interesting developments was taking the good bacteria out of a person that responded well to a treatment and putting it in an individual who was not. We can see the change by just moving this bacteria around. That is why we created that new periodic table ...

Beautiful ...

... all fruits and vegetables. One of the elements as you pointed out was dirt. When we see and look at Israel, where peanut allergy is extremely rare because when the children are born, they start giving them a little bit of peanuts in their formula, their milk, it kind of reverses everything we thought. By sheltering our children and not letting them play in the dirt, we are depriving them of many of the things that could protect them later in life.

Let's talk about how AI can propel the future. You spoke to us about your avatar that will absorb your knowledge. Now we've had movies where you've seen a person download themselves into the mainframe of computer so that their intellect can live. Take us to AI and tell us where you think it'll lead us.

Artificial intelligence, deep learning systems, VR, augmented reality, new algorithms that correlate between what's happening in the mind, the brain, the body in genetics, are the new collaboration amongst science and technologists. There's no limit to this. Of course, as you know, any technology can be used for harmful purposes as well. Nuclear technology allows us to destroy the world with nuclear weapons. We have biohacking now, and bio-terrorism. We have all kinds of hacking occurring through the digital technologies of the world.

So what is the internet? The internet is the collective human brain. That's how I look at it, and the collective human brain is evolving. You want to see the human condition, just go on the internet. There's everything from sacred to profane, divine to that diabolical and everything in between. But with the new technologies, we also know something

very interesting. In fact, the COVID-19 epidemic has shown us that. One thing we are realizing now is climate change is probably reversible. In the last six months, the bees have come back. Ninety percent of nutrition on this planet is bees, fruits, and vegetables. They were disappearing now they're back. So that means the ecosystem can be repaired. Climate change is reversible. Fish are returning to their dead lakes. Even the canals of Venice are seeing fish now. People can read in Bangalore. You can see the Himalayas is from 400 miles away. Birds are singing. Asthmatics are breathing in Hyderabad for the first time.

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The point I'm making is there's evidence that climate change is reversible. Number two, we are also recognizing there's a possibility of an oil-free economy. When the price of petroleum falls to less than zero, you know, something's going on. When George Gilder, your friend starts talking about cryptocurrencies, you know something is going on. So I believe this COVID has actually given us a time to rethink and reimagine the world. How do we repair the ecosystem? How do we repair the microbiome, which is reversible? How do we create a more socially just and economically just world and society? Black Lives Matter is part of that. There are many things that are happening right now where artificial intelligence, digital avatars, a global brain that can be rewired through the internet will take us to an era where I hope, if we are sensible, we'll be able to create a more peaceful, just, sustainable, joyful, and healthier world. Otherwise we'll have missed the opportunity. Technology and deep learning and artificial intelligence are going to be a very crucial part of that.

How do you see the world changing from this coronavirus? Will we understand how dependent we are on each other more? Will we sense each other more? What have you seen as you've spoken and interacted with people all over the world?

What I'm seeing Michael is a desire to connect at a deeper level and also more empathy and compassion and love in action. I believe that love without action is meaningless, and action without love is irrelevant. But when love and action come together, which they are, then we can achieve this more peaceful, just, sustainable, healthier, and joyful planet. We will see a revision of everything, including how we deal with international trade, stock markets will change through different kinds of ecosystems and currencies. Hopefully a healthier planet. Hopefully more social and economic justice, less racism. All that is now up for grabs. And we can see that it's happening. Actually. We can see, as we

look out, the ecosystem is repairing. We can see that people are now questioning racial injustice. I hope that this is an opportune time for all of us to reinvent our bodies, resurrect our souls, and also see how we can engage with each other to create more joy, happiness, and health.

That's the only thing that ultimately will heal this planet. And that requires a lot of international cooperation. It will require a different kind of dialogue, where it's not 'I win and you lose.' It'll all evolve. And I think it is. And the great work you're doing with the Milken Institute is part of that and the whole American Dream, which is all part of that vision.

Today, scientists, social scientists, are talking about something called "emergence." What they say is when you have maximum diversity of talent – humanitarians, philosophers, poets, entertainers, storytellers, but also scientists, technology, people who put them all together, a shared vision, maximum diversity, complimenting everybody's strengths – then emergence happens. This is a new science. I think we are going to see global emergence through collective intelligence and artificial intelligence. We can harness collective intelligence. It's no longer Einstein made the biggest discoveries of humanity, or somebody did this or that. That'll still happen But ultimately collective creativity, collective vision and collective intelligence is the thing we need to nurture it, to create a new world.

Well, I think the dual challenges we've seen – coronavirus in the world and maybe the last steps to eliminate injustice at every level and discrimination – will cause us to change. Both you and I have been trailblazers for so many years here. It's interesting to see yourself, Deepak, as the world catches up to you, you move farther out again. Thank you for joining us today.

Thank you for being part of this adventure. We have still more adventures to undertake.
