The Solari Report

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Artificial Intelligence with Harry Blazer & Hugo de Garis

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Harry Blazer: Welcome, Solari subscribers. Here is Harry Blazer, and I have a very special guest tonight, Mr. Hugo de Garis. Probably a lot of you are not familiar with who this person is, but by the end of this conversation, I think that you will be.

Mr. de Garis, who are you? What have you done in your life? Why are you special?

Hugo de Garis: I guess I'm best known for being the guy who is predicting a major war that I call the 'Artilect War' over the issue of what I call 'species dominance'. By dominance I mean the most intelligent species. The issue is whether humanity should or should not build God-like, massively intelligent machines that I call 'Artilects' hence 'The Artilect War'.

The word 'Artilect' is short for artificial intellect. So it's a God-like machine that has mental capacities not two times smarter than human beings or ten times smarter, but trillions of trillions of times above the human mental processing level. These huge numbers come out of physics. There is a branch of computer science call 'phys comp' which is physics of computation.

By background, I am a pure math, physics, and computer science guy. I've been retired for eight years now. Before I retired, I was a computer science professor teaching that sort of stuff. My research area was artificial brains.

At the time I was building China's first artificial brain. I still live in China, but in two months I will leave, and I will migrate to Australia where my family is. My sister has very generously set me up with a nice little one-person apartment in Melbourne, Australia. So I will leave China.

I have been here for 12 years. I was hoping to see China democratized, but it hasn't happened, and I would probably have to wait another decade or so.

I've lived in seven countries, so I will quickly go through the list. I grew up in Australia. Harry, are you hearing more of a British accent or an Aussie accent or a real mix? Are you hearing some American? Because I've lived in three English-speaking countries.

Blazer: It's a nice mix.

de Garis: I grew up in Australia, my second country was England, and I lived there long enough to take on British citizenship. So I'm a dual citizen. The third one, quite a few decades later, was the US. I lived for five years in the US in Utah – of all places. I had a professor job there. So I've lived in Australia, England, Holland, Belgium (where I picked up French and German languages), Japan, America, and China. I spent five years in America, eight years in China, and about 21 years in Europe, and 23 years in Australia where I grew up.

I'm a math, computer, and physics guy, and now I label myself an 'ARCer' which stands for After Retirement Career-er. People are so health conscious now; they are living into their 80's. I read recently that the average Australian male now has a life expectancy into the 80's. I also read – which I found fascinating – that there are boroughs in New York - one borough is low class, low IQ, not health conscious, eats junk food, get junk bodies, and their life expectancy is in their 60's. There are other boroughs that are upper middle class, professional, very health conscious, exercise, eat green vegetables and lots of fruits, and their life expectancy is into their 90's.

I expect to go the same way; I'm very health conscious. My father is still alive, and he is 99. I'm hoping that over the next 30 years – because I'm now almost 71 and have been retired for eight years – I am expecting to get to 100. So over the next 30 years, I need another career. There are millions of people in similar situations.

I label these sort of people ARCers (After Retirement Careering). For me, my ARCing is globication. (I like putting two words together.) Globication is just short for Global Education. What I'm trying to do is teach pure math, math physics, and computer theory to PhD level students around the world for free. I do that in two ways: One is by making YouTube whole lecture courses. This is not just one lecture, but a whole series. I will have about 125 of them over the next 30 years. That is one thing.

The second thing is I make electronic libraries. Google is putting up links to the whole book. You can read the whole book. They are doing this with so many millions of books now that I am able, on a particular topic, to give the link to these books. That enables students around the world who are interested in a particular topic to open up a textbook on their screen, and then they can just teach themselves.

Combined with these e-libraries and my YouTube lecture courses, the students can teach themselves pure math, physics and computer theory at Masters and PhD level for free. That is a revolution. I am hoping to have this within five years or so. I may have as many as a million students around the world at this level teaching themselves for free. That is what I do.

Before this, I was building China's first artificial brain. What I was doing was evolving - I was using Darwinian methods in software and hardware. People call me the father of Evolvable Hardware (EH). I evolve new networks in electronics at electronic speeds. I can evolve new networks in about a second or so because it's so fast. I could evolve tens of thousands of them and then connect them up in humanly designed ways. So I was a kind of "BA" - brain architect. I was designing brains, and I could evolve each little circuit, each brick, each component of the brain in special electronics at electronic speeds.

I was hoping then to persuade the president of my university to make the city we both lived in, Xiamen, not far from Hong Kong, and I inadvisably remarked to this president, "It would be nice to have lots of foreign Western professors come and build up China's artificial brain industry, but they probably won't come because they know about Mao Zedong and the 80 million people he killed."

I got an email back from him saying, "You've broken the law," and then two months later, my contract was not renewed. So I got into forced retirement. I was politically fired and blacklisted then from every getting another government/university job in China. In that sense, I have an utter hatred of the Chinese Communist Party (CCP).

Blazer: How long ago was that?

de Garis: That was eight years ago that I went into forced retirement. I had enough savings from my pension fund when I was a professor in Utah in the US. The cost of living in China is about one-fifth or one-sixth of what it is in the US. So that savings that I had from the US, the professorial pension fund, went about five times further in China than it would in the US.

It dawned on me, "Hey, I could afford to retire," so I did. I now have a Chinese green card, so I have the option to stay here for another ten years if I want to, but I don't want to. I am fed up.

What is really driving me out of the country is the very slow internet speed. It's just painful. I have to use a VPN that allows you to go around the censorship of the Chinese government which bans Facebook, YouTube, and major sites like those, particularly YouTube. They don't want people saying the sort of things that I'm saying about the Chinese government, which has killed over 80 million of its own citizens.

Is that enough of a background?

Blazer: Fantastic! You did a great job! Let me ask this now: Why China? You couldn't find people interested in the United States to have you build an artificial brain, or in some of these other places?

de Garis: That is a good question. I ask myself the same question quite often. There are probably several answers. If you meet anybody who has lived in seven countries, they would have to be a bit of a cultural adventurer. I guess that is the first reason; it's just my personality. I enjoy the novelty of a new culture. You learn so much. Everything is so different. I love novelty. That is one.

Secondly, it's jobs. I just went with where the jobs were, and my brain-building was so specialized that I just went where I could get a job. In America, I went to Utah of all places with the Mormons. I felt like a tropical bird amongst penguins. But I went there because I got a job there as a professor.

Why China? Well, that was the country after America. I did not at all appreciate the high, almost suffocating level of religiosity in Utah, so I was glad to get out.

The Chinese offered me a fantastic offer, so that was a big kick in a positive sense. They gave me a whole lab and lots of students. It was just a wonderful deal until I started learning the down side, and that is the students themselves – well the Chinese. They are just not very creative. Chinese have literally one science homegrown Nobel prize.

I became somewhat disillusioned. The money was great, and I had lots of people, but no quality. There was no real creativity. So it was very much a mixed bag.

Blazer: Let me ask you about your book. It was written in 2005, correct?

de Garis: That is when it was published. It was actually written 20 years ago. It was written in 1998. I was staying at a friend's house in New Jersey, so it is 20 years old.

Blazer: In that book, you talk about a number of ventures that didn't quite meet your goals and expectations when it came to building an artificial brain. Can you spend a little time talking about what happened? Your approach was quite novel, and a lot of folks thought, "It may not work that well."

I want to know if you still believe that that approach is the right approach, and then just tell us a little bit about what didn't work quite as well as you expected.

de Garis: From 2001 to 2006, those were the five years that I was in the US. A few years before that, when I was in Japan, the Japanese gave me about $250,000 to $500,000 to build an artificial brain-evolving machine. This is a machine that could evolve neural networks very, very fast. The guy who actually built them was a Russian-American based in Boulder, Colorado. He built four or five of these, and he kept one or two for himself. One was sold to the Japanese lab that I was at.

This was in the late 1990's, and by then it was becoming clear that Japan had stagnated. The property bubble in Japan had burst, and the stock market had crashed. Japan went into deep recession. Even today, it has not pulled itself out of it.

The lab that I was at, which was a private Japanese company that you've probably heard of, NTT, funded the lab. They thought that they weren't getting their money's worth, so they just axed major portions of the lab. That was the end of my stay in Japan.

Anyway, the machine was there. It was called Star Labs. It was supposedly a laboratory of stars. We had this famous Russian guy who was into time travel. He was a mathematician talking about travelling in time. I was the brain-builder, and there were various other 'weird' people.

The lab was housed in two different buildings. In the first one, there was something wrong with the electricity, so the machine didn't function properly. The CEO of the research lab was unwilling to pay. There was this bitter dispute between the Russian builder and the CEO of the lab.

Eventually that lab went bankrupt because, given the timing, around 2001 or 2002, there was the dot-com crash. Then I went to America.

I couldn't get people to buy one machine because it was expensive. These machines were about $500,000 each.

I feel a bit jinxed.

Blazer: Let me ask you this question: This machine – was it making networks on a chip, or was it making chips of networks? What exactly did it do?

de Garis: It had programmable hardware so that you could evolve neural networks in hardware. They were simulated neural networks in hardware. You could program these chips so that they behaved like evolvable neural networks. They were evolving these neural networks at incredibly fast speeds – in a matter of seconds. So that made it possible to evolve large numbers of them.

Because of the dispute between the boss of the lab and my Russian manufacturer, the Russian manufacturer had access to the machine because it was his design, and he just cut it off. He made it so that it wouldn't function. That was his lever to be paid. His financial survival, given $500,000 per machine, depended on him getting paid. Eventually he didn't because the CEO could not because he went bankrupt thanks to the dot-com crash, and investors just stopped investing in the lab.

Blazer: Would you describe the human brain in terms of numbers of neural networks, in terms of numbers of neurons, or in terms of synapses or connections? How would you describe the human brain?

de Garis: I will give you some rough numbers. The male human brain has roughly 100 billion (10 to the 11^{th} power) brain cells or neurons. Roughly each neuron connects to about 10,000 others. Each connection is known as a synapse, which is the biological term. Each synapse can signal or send bits per second at roughly about ten bits per second.

The computing capacity of the human brain is estimated by multiplying those three numbers. So it's 10^{11} neuron, and how many connections per neuron, about 10,000 or 10^4. So that is 10^{15} if we multiply those two numbers together. Each synapse or connection is signaling at roughly about ten bits per second, so that is 10^1. So you end up with 10^{16}.

One of the things that really got me alarmed is you probably heard of nanotech. If you take just a single grain of sand and you nanotech it in such a way that each atom in that grain of sand is manipulating one bit, what would the processing capacity of that single grain of sand –nanotech – be?

It's the back-of-an-envelope type of calculation. You can work out roughly how many atoms would be in that cubic millimeter, and each atom can switch back and forth – zero-one, zero-one – in a femtosecond, which is one-thousandth of a trillionth, which is a thousandth of a millionth of a millionth of a second. So you can work out how many bit flips that single grain of sand can bit flip per second.

Then compare that number with the bit processing rate estimated of the human brain, which was 10^{16}. So it worked out that that little grain of sand can outperform the human brain by a factor of a quintillion, which is a million trillion times more than the human brain. That, to me, was the writing on the wall. All of the rest – how humanity builds these God-like, massively intelligent machines – is all just details.

The essence and the core idea is that humanity now has the technological capacity to build what I call Artilects (artificial intellects). These are God-like, massively intelligent machines.

So I see the 21st century's global politics being dominated by this issue of what I call 'Species Dominance'. Should humanity build or not build these God-like, massively intelligent machines – these Artilects? I see humanity splitting over the issue. It's an extremely divisive issue with very powerful arguments on both sides.

I'll bring in some labels now because I'll be talking about the two major schools of thought – the two major philosophies – on this question.

Those people in favor, who want to build these God-like machines, I call them 'Cosmists' based on the word 'cosmos'. In other words, the universe. That is their perspective. They see the big picture and the whole universe. There are stars out there billions of years older than our sun. Probably life is commonplace throughout the universe, so probably there are civilizations that are billions of years older than we are who have been through this process of moving on beyond biology to the Artilect. Maybe this transition from biology to the Artilect has happened zillions of times. Maybe it's a very common occurrence in the universe. So I label them 'Cosmists' based on the word, cosmos.

The other group is labeled 'Terrans' after 'terra' or the earth. Their main philosophy is that building these God-like machines – these Artilects – is risky. It's too dangerous because they could become so vastly superior to human beings that maybe one day they will just say, "These human beings are a pest. They're so inferior to us, and they are a liability because they need oxygen, and the oxygen is rusting our circuitry," or something like that. So they just decide to get rid of us. Being hyper-intelligent, they could do that very easily – the way we humans control the lives of cows and chickens and so forth.

The Terrans will say, "Humanity must never build these Artilects because if it does, then humanity faces the risk of our own extermination."

Put the issue of species dominance in the form of a slogan, and that makes it easy for people to remember. It goes as follows, "Do we build gods, or do we build our potential exterminators?" That would be the Terran point of view.

The main motive from the point of view of the cosmos is that they would be 'God-building', creating the next rung on the ladder of evolution. They see human beings as a kind of stepping stone towards the creation of a vastly superior creature – the Artilect – that would not even be biological; it would be Artilectual. It would be technology with hugely superior capacities to mental processing.

The other group, the Terrans, are terrified of the potential risk of extermination. So I am predicting a major war over this issue, and I call the war the 'Artilect War'.

Twentieth century wars – World War I and World War II and so on – were essentially between nation-states, but a major 21st century war – say middle to second half of the 21st century – would be a global war. It would be the whole planet because the size of the political units keeps increasing over time. But there is a limit to that process, so eventually you get units that are the size of the whole planet. You are talking 21st century weaponry, which is more deadly and efficient than 20th century weapons.

If there is a major war – and by 'major' I mean extremely passionate – we are not talking about the survival of a country, now we are talking about survival of a species. In other words, we are talking about us – human beings.

People will passionately take sides. On the one hand, you will have the Cosmists who want to build gods, and they will be making outrageous statements, saying, "One Artilect is worth a trillion/trillion human beings," and that sort of stuff, which actually terrifies the Terrans, who say that these Cosmists are monsters and they have to be exterminated for the sake of the survival of billions of human beings. So they see it as justified to exterminate several million Cosmists for the sake of the survival of the billions, or the large majority, of human beings. They will be at each other's throats.

The tragedy of the situation as I see it is that it is very difficult to build an artificial brain because to be able to do that, we need to know how our human brain works. But the human brain is the most complicated thing in the known human universe. It's fantastically complicated1

It will take time for brain science to understand how it works, to be able to build a genuinely intelligent machine. We are making progress, but it will not be an overnight thing I strongly suspect. It will be step by step incremental progress as humanity builds better tools to understand how the brain works and so forth.

In other words, there will be lots of time for this species dominance debate to unfold. I talk about various phases – stages of development in this species dominance debate.

Phase zero is no awareness. Nobody on the planet is aware of the possibility that these machines may become vastly more intelligent than human beings, and hence become a potential threat and an existential threat to humanity.

Phase one is the intellectuals crying in the wilderness phase. That is where I felt that I was in the 1990's. There was just a handful of us worried about this issue.

Phase two is interest groups. For example, on the internet, there are thousands of people talking about these issues in forums and that kind of thing.

Phase three, which a few years ago was entered, is what I call 'mainstream', particularly the media. The media gets interested in the issue and starts writing about it and putting documentaries on television and so forth. In other words, they are presenting these ideas of species dominance to the masses.

Phase four, which we are entering now, is simply politics. People start getting politically active. They are talking about the issue and going to the United Nations and that sort of thing.

Phase five, which hasn't happened yet, would be the war itself. The war itself, if it comes to that given 21st century weaponry and the level of passion involved, people will be fighting for the very survival of the human species on the one hand and wanting to build gods to go out into the whole universe – the much bigger picture than puny, little humanity which has a life expectancy snuffed out in a pathetic 80 years in a universe billions of years old.

You have extremely powerful arguments on both sides of the debate, and things are a bit complicated in the sense that there is a third group, and they are the people who compromise. They are the people who want to become Artilects themselves. They are called cyborgs or cyborgists. They are the people who want to add components to their own brains and become bit-by-bit Artilects themselves. So they would convert themselves from humans to Artilects. From the point of view of the Terrans, the cyborgs aren't very different from the pure machine.

Here is another interesting little story: Twenty, 30, or 40 years into the future, imagine you are a young woman and you've just given birth to your first child. The technology exists to cyborg your child if you want because it's all around you. People are cyborging themselves left and right. It's just part of the culture. It's in the air.

Let's say that this young mother decides to cyborg her child. She goes to some company which inserts a grain of sand that has been nanoteched into the baby's brain, and this little piece of nanotech miracle can outperform the human brain by a factor of a quintillion – a million trillion times more.

Effectively it dawns on the mother after a while that she has killed her baby. I mean, it still looks like a baby, but in terms of mental capacity that brain with the added grain of nanotech sand is 99.99999….% Artilect, and only 0.00….1% human. So effectively that baby is no longer human. In terms of its behavior, that 'baby' of hers – relative to her as a human – is totally and utterly alien.

These Terrans are feeling that their very existence is being threatened by the presence of the growing intelligence level of the cyborgs and the machines themselves. Their own home robots, for example, is a huge industry that will probably occur ten to fifteen years from now.

As the machine intelligence level and the human intelligence level gap closes, as millions – if not billions – of people see with their own eyes that their own home robots are getting smarter and smarter every year, I expect to see the species dominance debate really heat up as phase four politics really gets going.

I expect to see that, but I doubt that I will still be alive for the whole war. The whole crisis will take time to unfold.

Blazer: Hugo, you have well-established your interest, credentials, and understanding of this whole issue. I want to use this opportunity, and we may have to do this in two parts because you are a fascinating person, and by saying what you have, you've stimulated a lot of questions.

I want to ask some questions that are important to me and our listeners. Is building neural networks enough to create a brain and to create intelligence? It almost seems like the premise is: Get something with enough ability to communicate with itself, and then intelligence emerges out of that connectivity. Is that a premise?

de Garis: That is a really good question, and it's a question that dominates the intelligists – the people who build artificial intelligence. My best friend is Ben Goertzel. Have you heard the name?

Blazer: Yes, I have.

de Garis: He is the father of AGI. It's his time. It stands for Artificial General Intelligence.

Today's AI is largely very narrow-focused. It's very specific. It's like Google search.

Blazer: The AGI is like the philosopher's stone of artificial intelligence – if you can get machines to do that. Definitely talk about that. That is great.

de Garis: Ben and I are very good friends, and yet we differ in basic philosophy on how to approach this. There are two very broad approaches: One is almost common sense. It's to copy the brain. If you copy the brain closely enough, sooner or later you will end up with a machine that functions according to biological human brain principles. That is one approach – to copy the brain.

The other approach is what I simply call the 'engineering approach'. In other words, do whatever you like. Any idea you have, you just engineer it .That has been Goertzel's approach.

First off, he is a genius. He is a literal genius. He has an IQ of 186. Not many people on the planet have that level IQ, so he is a genius.

Blazer: So isn't the whole idea here that one school is to build the brain, and it will end up being intelligent, and the other is to just think about the goals that you want to accomplish, and engineer to that, and that will get you there. Is that basically it?

de Garis: Right. Both approaches are being taken by the intelligists, the brain builders, and no one is sure which way will work out. There are cynics both ways. The cynics towards the copy the brain approach is that the brain is so complicated. We don't understand how the brain works. We don't even have the basic principles. What is a memory? What is a thought? How is a decision made? These are the basic questions that little kids can pose, but we still don't really have answers yet in neuroscience.

Blazer: Let me just quote a couple of things which I think that you would agree with. This was said by Dr. James Giordano. I don't know if you know him. He was at a Lawrence Livermore seminar, and he said, "We still don't understand how the great stuff like cognition, emotion, and behavior arise from the gray stuff, which is our brain. We don't understand what the efficient cause is of what the brain does."

Another way he said it was, "How does the brain make mind?"

I think that you would agree with those statements – that we don't know that right now.

de Garis: One of my interests is philosophy. You may have heard of the so-called 'hard problem of consciousness'. By putting atoms together and molecules together, how on earth do you create consciousness? What is consciousness? So you have a major, major problem here.

The brain-builders who copy the brain have their work cut out for them. On the other hand, the engineering approach is the approach that has been taken since the mid 1960's when the AI first started. The first artificial intelligence conference was held in 1956, so it's been around for 60-70 years. People have been taking the engineering approach out of necessity because in those days very little was known about the brain, and obviously unsuccessfully. Today we still do not have intelligent machines.

People don't really know which of the two major approaches will pan out, so both are being tried.

My approach, I guess, was a bit of a mix. I was using neural networks. I was modeling how biological neural networks work. I was using evolutionary or evolvable hardware and evolutionary engineering. So you are building things by evolving them very fast. I was reading lots of neuroscience to try to get ideas on brain architecture because I consider myself the first BA (brain architect). That technology is still yet to be developed. I imagine in the future – decades from now – there will be a new job category of people who label themselves as BA's.

I anticipate countries and governments will set up ABA's (Artificial Brain Administrations) like NASA. By 'administration' you are talking about tens of thousands of engineers and scientists. For NASA their job is to design and go out into the planets and explore them.

One of the things that I was trying to convince the president of my university to help me set up was something I called a CABA – the Chinese Artificial Brain Administration. There will be severe competition amongst various countries to build ever-increasingly intelligent artificial brains because this industry will be enormous.

I imagine that you could buy a home robot that was genuinely useful. It could walk the dog, it could tell you stories, it could wash the dishes and the clothes, clean the house, amuse you, sex you, educate you, and all of those things. Then you ask yourself: How much money would you be prepared to spend to buy such a robot?

If you ask people, most people would say that they would be willing to spend maybe more than they would for a car. They probably wouldn't spend as much as they would for a house, which is usually your biggest expense, but more than a car. Since nearly everyone wants to buy one, you are talking about a huge industry.

Governments will obviously get involved. They will invest heavily in setting up these Artificial Brain Administrations to foster the whole process, paying the salaries of thousands of engineers. As a result of that, each year the intelligence level of these home robots or the artificial brains that control them will, of course, keep rising so that the IQ gaps between human level intelligence and machine level intelligence will keep diminishing. Hence, the species dominance debate will heat up and up and up.

I am predicting this species dominance debate will become the dominant issue and the dominant political phenomenon of our century, eventually leading to a major war. The passion level on either side – building gods on the one hand and building potential exterminators on the other. I'm very gloomy about it. The only positive thing for me is that given my age, now that I'm in my 70's, I will very probably not see the war, but I do expect to see the debate really heat up.

Blazer: Now I want to ask this important question. We don't really know how the brain works, we don't know which approach or combination of those two approaches might get us to creating an artificial brain, but yet you feel very confident that we will get there. What gives you that level of confidence? Is it a version of Moore's Law, that exponential growth and processing and knowledge? Is it the progress in neurobiology that will give us architecture of the brain and a much better understanding of it? What gives you that confidence that we are going to get there?

de Garis: All of the above. The effect of Moore's Law is a big one. In fact, humanity has already reached human brain processing levels of about 10^{16} bit flips a second. Technology has already reached that level. So all that remains is the other part – the bioscience knowledge that we still don't understand how the brain works yet.

Moore's Law feeds into neuroscience as well because the neuroscientists are given increasingly powerful tools and nanotech-based tools to understand how the brain works. Progress and understanding of how the brain works is exponential. It's just skyrocketing lately.

The brain architects – these engineers who build artificial brains – already have more electronics than they know what to do with, so that does not limit them now. What is still limiting is the ideas – what to build, how to build it, and this kind of thing. It is being stimulated strongly by rapid progress in neuroscience.

There is a kind of wedding between nanotechnology on the one hand and neuroscience on the other. It is an extremely powerful wedding between these two showing initially the scientists – the brain-builders themselves – just how powerful this wedding between these two will be. In time, the whole public will become conscious as they see themselves.

Blazer: Would you agree that there are two underlying premises to all of this – one being that digital computers can simulate any process of formal reasoning because basically formal reasoning has been shown to be able to be described mathematically, and human intelligence can be so precisely described that a machine could be made to simulate it?

de Garis: Is your background philosophy by any chance? What is your background?

Blazer: As a matter of fact, I did study philosophy for three years at Brandeis before I went into a music career. But this is a very important answer from you.

de Garis: I guess as a working hypothesis I would say 'yes' to both of those. Philosophy is a hobby of mine. I enjoy reading it very much. My first wife took a philosophy degree, so I'm not philosophically naive.

If you're going to be an engineer and build stuff, you have to believe what you're doing is not a complete waste of time. If you ask me what the solution is towards the hard problem, I readily admit that I don't even have the conceptual tools to even begin to think about how to solve that problem.

Blazer: I want to keep going in this vein because you're an incredible resource to help brainstorm this. Part of this is assuming that there is a direct analogy between intelligence and computational capabilities. It's almost like these guys, and perhaps yourself, are looking at intelligence as fundamentally computational – the ability to do computations very quickly and analyze all kinds of data to find patterns, which is another form of computation you might say.

One of the things that I found a little bit disturbing in your book was the way that you talked about ants and other things, and you said, "These things are stupid." And the Artilects will look at humans as being stupid.

I have to tell you that I don't look at an ant as stupid; I look at it as: Given what it is, it does absolutely astonishing things beyond what humans are actually capable of. I look at my dog and go, "This guy ain't stupid. I probably have a very poor understanding of my dog. I've got some basic understanding of it. It will do this for food, and I can put it on a leash and it lets me know when it wants to poop or when it wants to play Frisbee," but in terms of how its brain works, how it looks at the world, how it figures out things, how it decides when it wants to bark and what it wants to tell me by barking, I don't have much of a clue at all about these things.

One of my concerns is that there is an arrogance among the scientific community because they've had so much success at digitizing things. One of the ways that we are going to end up in a circle where they say, "See, I told you so," is they are going to look at everything as digitizable, but it ain't. They are going to turn the world into a model that allows them to create success, but in the process they are going to make it deformed but also incredibly enervated. It's not going to have the same energy, the same feel, the same capability. There are things beyond computation and beyond digitization.

I would like you to react to that.

de Garis: This reminds me of a debate I had once. It was on TV, in fact, in London in the year 2000. You've probably heard of the name Sir Roger Penrose.

Blazer: Yes. He is a very famous physicist out of the UK.

de Garis: Yes, he is very famous. I think that he is the smartest person I've ever come across. He was saying, "But your approach is purely computational," and he was getting into Gödel's theorem. Sir Roger Penrose's IQ is around 210 or something.

He was complaining bitterly that my approach seemed to be largely computational, and so my reply to him may be a reply to you as well. My underlying assumption is that we as human beings are living examples of the idea that it's possible to build three-dimensional living creatures that are intelligent and conscious because we are built - in the embryogenic process in the embryo. The embryo is a self-assembling DNA-controlled process. We're built. So this DNA controls how molecules are put together to build an intelligent conscious creature. I guess that is one of my basic premises. We are built.

Physics and chemistry understands (well pretty well) how this process works, and we are discovering more all the time how the embryogenic process works. So that, I guess, is pretty much an article of faith that seems to be born out over time. Embryogenesis is better and better understood every year.

I guess that is my basic philosophical principle, that we are built, that things that can be built are understandable, and it is only a question of time before humanity and the scientists understand enough to do something similar, to imitate the brain well enough to be able to do it artificially.

Relatively, if you can do that, where's the limit? How big for example could you have a computational device with all the latest technologies – 3-dimensional circuitry, quantum computing, reversible computing, zero temperature incredibly fast computer devices the size of asteroids, with brain volume a zillion, zillion times larger than a human brain, and so smart that it bootstraps itself into higher and higher levels of intelligence, finds new ways to be intelligent, and redesigns itself based on that new way, and ratchets itself up to the point of it being God-like. That possibility I find fascinating.

On the other hand, when I'm in the park and I'm looking at all of these little Chinese kids who are really cute when they're small, I think, "My God! There is going to be an Artilect War, and billions of people will be killed. All of these people, including myself, will be evaporated."

I find that utterly depressing. So I am extremely ambivalent about this.

Blazer: We are at another crucial point here because in a way, this is all about dealing with risk, and humans have always wanted to reduce risks and increase predictability. In a way, biology has dealt with that through adaptation. Now we are at the point where we are dealing with it more and more through engineering.

You talked about building. Well, I think that there is a difference between building a machine and biology building a human. People talk about souls and these other things, and I'm not trying to go there. All I'm trying to say is that there is something that we don't understand, that math can't get you there, traditional science, reductionists science can't get you there, and it is another component of life.

My concern is that AI will be successful, and it is increasingly successful. It's not even so much that humans will be wiped out as a species potentially in this war that you are talking about, which I think is very possible, but that human nature will be wiped out and made more and more machine-like. That is what will happen through this thing.

I was very interested in talking with you to see if you give any credence to what I just said, or if you think I'm just being a 'luddite' – as they like to say about people who make those types of arguments. What would be your reaction to that?

de Garis: I'm sort-of both. A couple of years back, I had the equivalent of an atlas for countries, but they were for star systems and galaxies. I would turn the page, and I would see these glossy, rich-colored photographs of galaxies and so forth. I would look at each little white dot in the photograph and say, "My God! That is a star!"

There were hundreds of billions of stars in a galaxy typically. Let's say that pretty much every one of these white dots had a planetary system. Probably life is very common – or at least bacteria – all over the cosmos.

When I'm thinking in that mode, I think like a Cosmist. I think, "Humanity must go to this stage. We have to do it."

Then on the other hand, sometimes I will wake up after a nightmare. The horrors of the Artilect War itself, and with passion on both sides and 20th century weapons and billions of people being killed, I call it giga-death. It is just absolutely horrible. So I am very, very torn.

Interestingly, the last couple of years I've been taking opinion polls on a small scale. I'll give a talk somewhere with different kinds of audiences. I will invite them to talk.

Blazer: The audience response is 50/50 right?

de Garis: Initially yes. With general audiences I was typically getting between 40-60% either way. I would ask them to choose between more Terran or more Cosmist, just to keep it simple. It would vary between 40/60 and 60/40.

Just a couple of years ago I got to talk to a bunch of very young 20-year-old Chinese computer science students. I thought, "These guys are much more informed about the latest in computer technology and so forth. I wonder if that would have an influence."

The answer was: Yes. It was the highest I've ever had in favor of cosmism. It was 80%. Interestingly in mid-September I will be flown to Missouri to give a plenary session talk to mostly religionists or Christians. I am very curious to see what percentage I will get there.

As a sociologist you start asking questions. When this species domination debate really heats up, when it really gets going and becomes the dominant issue of our times, obviously the psychologists and the sociologists – the social science guys – will have to get in on the act. It's just so big and so important.

From a sociologist point of view, you can imagine them asking questions like, "Is there a correlation between the level of religiosity of people and them being more Terran? Is there an age difference? Is there a generation difference? Are older people more likely to be Terran than Cosmist? Is there a correlation within intelligence? Are the higher IQ people more likely to be Cosmists? Is there a male/female difference?"

This doesn't exist yet, but this will be a new branch of sociology simply called 'Artilect sociology' that asks all of these questions. In time, governments will become interested because they will be making policy statements on these issues, so they would like to know what the general public feels about them. So they will be commissioning surveys on these issues.

I'm just trying to get the ball rolling on this.

Blazer: I think it's fascinating – this 80% number that you got.

I was sitting at a software and hardware development company in China a number of years ago. A guy asked me to go over there and help him out on something. I guess I brought up the issue of the 30 or 40 million – which you claim is 80 million. At that time, that was the number that was being tossed around. It is probably closer to 80 million people that Mao got rid of.

What I noticed was that it was basically younger people and young adults who were in the room. There was one older guy. They explained to me, "At about 50 years old, you're kind of put out to pasture in China to make room for the new people, with a few exceptions."

This younger guy said, "Well, sometimes you just have to clean out that many people to make things work," without batting an eye.

de Garis: Oh my gosh!

Blazer: That ties into the Cosmist perspective on this thing: Humans are an ant in terms of the cosmos, so ants get stepped on. Humans will get stepped on for the greater good.

This guy said, "Yeah, 30 million (or 80 million) people got wiped out in China for the greater good."

You've been very, very generous with your time. If you can hang on just a little longer, I have two or three other questions. Maybe we could do a second session.

de Garis: Let me explain myself a little. One of the reasons why I'm moving out of China is because I live in a cultural cocoon. I'm actually afraid to get fluent in the language because I'm afraid that if I were fluent I would be too tempted let fly my hatred of the party. I've deliberately not gotten fluent for that reason.

Oddly, when I do return to Australia, I will get fluent in Chinese. If I live another 30 years, almost certainly within that period China will democratize. Once China democratizes and stops being so ultra-conservative – they are the only country in the world that does not use an alphabet and this kind of thing – I anticipate a flourishing of creativity in China with 1.4 billion people.

Imagine a whole city of 10 million people where everyone has an IQ over 140, where they are in the top percentile. China could create a science city like that if it wanted to.

Blazer: Some of the stupidest people I've ever met were some of the highest IQ people I've ever met.

de Garis: But they could do math.

Blazer: They could do math all right.

So let me ask you these couple of things: Is it possible for AI to be irrational or illogical?

de Garis: Oh God! Now you are asking me a Gödel type question. That is a really tough question. I think I'll pass on answering that one.

Blazer: Okay. Then let me ask you this one: What is intelligence? We're talking about IQs, which is supposedly measuring intelligence. We are talking about brains that are going to be super intelligent. So what is intelligence? What is our goal?

de Garis: I will take a common sense approach to answering that question. To me, intelligence is just the ability to solve problems quickly. People who have higher IQs can do this faster than other people. Qualitatively they can solve problems that dumber people can't even start to solve.

Blazer: Wait a minute there. They can solve certain types of problems faster.

de Garis: Some people are just wiser. They take in more variables when they consider giving advice to people. Abilities differ enormously. You get these outliers.

Blazer: If intelligence, according to you, is the ability to solve problems quickly, is AI basically the ability of machines to solve problems quickly?

de Garis: Yes. Essentially that would be my basic view as an engineer or 'intelligist', which is a person who does AI.

Blazer: How is an AI-based computer or AI different than a traditional computer – algorithm-based computing or rule-based computing? Can you tell us something about that?

de Garis: It depends on how it is implemented. If you use conventional software algorithms, that is one approach. That is the engineering approach. You just do what you like.

Increasingly, though, computer components become more brain-like. They are being influenced by the way the brain functions with neural networks. IBM makes brain-like chips and puts them together and connects them up into brain-like ways. IBM talks about cognitive intelligence and cognitive technology – what I was talking about earlier of the wedding between nanotech and brain science.

There are many AI teams, and they are taking a whole range of approaches. No one really knows which approach will pan out faster. People are on all fronts just trying what they think might work.

Blazer: Is there any one thing that distinguishes AI from the type of computing that was done 20 or 30 or 40 years ago?

de Garis: I suppose the brain-like aspect of it. Thirty, 40 years or half a century ago, there was a pretty hard distinction between hardware and software. You had the hard logic that didn't change, and you programmed it. So the instructions to program the hardware was called software. You had this distinction. You could have different software instructions operating on the same piece of hardware. That is why it is called 'hard' and 'changed'. It was fixed.

Nowadays with brain-like computing, the hardware/software distinction dies away. The essential difference between the two is that with the brain approach, it's more the connectivity that is critical.

In our brains, when we learn something, we create new connections between brain cells – between neurons. In other words, you use synapses. Synapses can get strengthened or weakened. That is what learning is.

I suppose that the essence of AI is learning – storing memories about previous experiences, and then using them for the future. It is machine learning. Machine learning is becoming a critical part today in artificial intelligence.

It sounds contradictory, but there was a breakthrough - there are new algorithms for machine learning. You may have heard of it. It's deep learning.

Blazer: Wasn't IBM the main driver for that?

de Garis: I think that it was one genius. I think it was the same guy who did backpropagation. Have you heard of that? It was the same guy, Hinton.

The reason why it's called 'deep learning' is because you can go deep into the network – many more layers of neurons. You can use this algorithm to change the strength of the connections in the neurons in these deeper layers.

Blazer: That was one of the questions I wanted to ask you: What is the connection between machine learning and AI?

de Garis: They are sort-of becoming the same. I don't really make a distinction nowadays. Since this new algorithm came out, it's just sweeping the field. It's like everyone is taking it up. They are essentially the same now.

Blazer: Let me create a scenario, and I want your reaction to this because connectivity is so key.

de Garis: That's the way the brain works. It's essentially connectivity between neurons that is critical.

Blazer: So connectivity is key. Now you've got a huge push for connectivity, you have a huge push for increasing processing power, you have huge amounts of storage, you have huge, big data, you have the ability to analyze this, and now you will have the internet of things. On top of that, you have neuroscience that is understanding more and more about how the brain functions. But already now they admit it, because this talk at Livermore was about it, "Let me tell you about the science of mind control and how we are able to do it."

So what is much more likely to happen is not your Artilect War, but is that the people who are in control – the people who like to be in control and have a view of most humans as a problem rather than potential – will be able to use all of these tools to control behaviors so that there never will be a war. Not only that, but you have incredible geniuses that are great at marketing – like Steve Jobs – and people will basically be enslaving themselves.

de Garis: You're talking about the illuminati and all of that?

Blazer: No. I'm talking about AT&T and IBM and Facebook and all these guys who are already censoring what you look at. They are already looking at every search that you do so that they can customize their searches. They are using AI right now to figure out how people behave and sell more stuff. You get the big push on 5G and you get the big push on the internet of things.

Corporations, the military, DARPA, and everybody – just like you claim in your book – are pushing for these capabilities. The point is: Who is in control of them? We don't even know our governance system. We don't know the governance system in the world. We don't know who the final decision-makers are who are pushing for the decisions. We know that there are pedophilia rings, we know that there are control files on lots of people. But is it the intelligence agencies that ultimately have the say? We're not a democracy anymore.

de Garis: You haven't been for a century.

Blazer: Right. We are moving rapidly towards fascism, and we never were a democracy; we were a representative form of government.

So what I'm saying is that you have people who will be developing these tools and who will have the money to control these tools with the capability to shape behavior the way that they want. There won't be a war because they will be able to make it so that people will just accept it or die. The ones who are real trouble makers, we'll just kill them.

de Garis: You may be right. We're talking about the future, so it is always risky. What worries me, though, is there may be various tendencies that are moving along in parallel. What you just portrayed may be one of them.

What I see likely to happen is that once the IQ gap seriously starts closing and millions or billions of people start to see that gap with their own eyes, and they see it closing, many people will become alarmed. When the large majority of people really become alarmed, that usually sends fear into the eyes of the small group of elites.

Blazer: Who is alarmed now? Basically generations of kids are spending most of their lives in front of a cell phone – looking at it and texting. They will be at a dinner table and won't even be having a conversation except through this phone – either to each other or to other people. That is a form of AI taking over from my perspective.

de Garis: How will they react when their gadgets seriously start becoming intelligent?

Blazer: But wait a minute. How do they react that an obviously false flag operation in 9/11 created a security state that enabled a level of surveillance that our forefathers warned us would lead to slavery? Who is reacting? There is a small portion of people who are reacting to that, but when you take a look at the amount of infringement of our Constitutional rights that's happened since 2001, never mind before that, it's like it's happening. People are enabling it.

If you said, "You have to give up your cell phone in order to protect the Constitution, what do you think that the answer would be? So my concern is that AI is here. I also believe that with the $20-something trillion that we know has been 'misplaced' just from the Department of Defense and HUD, where did that money go? How was it used?

When you talk to somebody like Bezos, he was asked, "The $90 or $100 billion you are worth now, where does that money go?"

He answered, "There is only one place I could ever rationalize putting it, and that is for space."

I believe that AI and mapping of the brain and lots of other things have been done already by the black organizations in this world that basically have used drugs and financial fraud and other things to take that money. It's been described almost as a breakaway civilization. That is why when the guy who is head of Lockheed (skunk works) 30 years ago said, "We have the technology to bring ET home," was he just a lying, exaggerating crap head? No.

That's why Fermi's whole premise is bullshit (The **Fermi paradox**, or **Fermi's paradox**, named after physicist Enrico **Fermi**, is the apparent contradiction between the lack of evidence and high probability estimates for the existence of extraterrestrial civilizations.) We have gigantic amounts of evidence about ET's. Gigantic. Everywhere you look there is evidence of it. Fermi should know from the guys he associated with who know about the damn ET's that he should have known that they know. So maybe he was part of a disinformation campaign.

All I'm saying is that along the way there is going to be some folks controlling these technologies that are interested in control. They are not interested in optimizing the potential of human beings. You keep talking about IQ (intelligence quotient). Well, what is the emotional quotient for these people? What is the spiritual quotient?

There are all different types of intelligence. There are other types of ways to look at things. Believe me – the black world understands this because they probably studied it more than anybody. They will pooh-pooh the spiritual, they will pooh-pooh extrasensory perception to you, and they will pooh-pooh all this stuff to your face – which is part of the op. They have studied it more than anybody, and they utilize it.

That's my concern – that these very, very powerful tools of which you have done a big service to make people understand how incredibly powerful they could become are already - not as powerful as you described in your book - but are still immensely powerful, and these tools are in the hands of people who are interested in centralizing wealth and centralizing power, who look at themselves as 'elites', who look at themselves as people who know better, and who have a plan for what humans should be.

Obviously Kurzweil has a plan, the head of R&D for Google. He has a plan with all of his transhumanist buddies, and it involves robotics and AI and all of this stuff that you are talking about in space. They have a plan. They have a plan where basically human beings are no longer.

What I believe is that humans are going to cooperate because they are going to be given treats along the way. The elites are very surprised about how cheaply humans sell themselves out for treats so that they can belong or for status or for a little money or something.

I've talked for a while, and I totally respect what you have done in your book. Obviously you have been an incredible innovator in this industry that has never really gotten the chance to do as much as he could, but obviously you have done some pretty remarkable things, and you have pointed the way for a lot of people, and that may turn out to be very fruitful.

de Garis: I've not been devoting a lot of mental energy to it during the last year or two. This is a complete red herring if you want to get into it, but I've made about 300 YouTube videos on the theme of masculism – men's libs.

Blazer: Yes, I have seen it. We can get into that at some other time. I don't want to contaminate this with that because I think that you are absolutely right. I think that there is an effort to emasculate men and obscure differences between genders. Every commercial that I see, the guy is the stupidest person in the room. I think that there is a lot to what you are saying, and I think that is part of the plan to destroy culture and destroy the state and have global power structures and destroy individualism to a large extent and make it into this gigantic, collective mush. Collectivism is dangerous for freedom.

I've talked a little bit. What is your reaction to what I've said?

de Garis: You may be right.

Blazer: It's a scenario that is reasonable.

de Garis: Yes. It is quite a possibility. The control may end up being effectively total.

I am somewhat cynical in the sense that the technology itself, just due to its very nature, that when the IQ gap closes I see the alarm. People, whether they are being manipulated or not, will independently see with their own eyes what is going on.

Blazer: Wait a minute. You have Hawking, who said it before he died. You have Musk making a big deal out of it. But what is Musk's solution? "We have to become more like AI. We have to basically hook the machines to our brain so that it won't get an advantage over us."

de Garis: That is wild stuff.

Blazer: But Musk is saying the same thing. These guys are talking about it. It's in the mainstream now.

de Garis: I agree. Remember that I wrote about this 20 years ago, and Phase I felt very lonely at the time.

Blazer: Let me ask this last question because you have been extremely generous with your time. I hope also that you wouldn't mind being a resource if we have questions on AI in the future that we could call you up and say, "Hey, what do you think about this?" or, "What does this mean?"

de Garis: Yes, of course.

Blazer: If you were writing this book again today, is there anything that you would change about the fundamental thesis or any of the primary aspects of this book?

de Garis: I think that the fundamental thesis – these Artilects that are coming – I would not change. I think that is almost obvious. The fact that it is now mainstream shows that most people accept these God-like machines that are coming. I think that is generally accepted.

What I would change would be that I would add another chapter or two about the more recent phases. I would talk about Phase II and all of the organizations pushing it. Phase III is going into the media.

You, in a sense, are Phase III.

Blazer: Absolutely.

de Garis: This conversation is part of Phase III. Phase IV is now starting. If you heard of Professor Tegmark of MIT, he is a theoretical physics professor there. He gets in the media a lot. He organized a group and went to the United Nations and had a kind of senate hearing. He said that humanity has to have a kind of moratorium on this stuff because this is just so important, and we are only going to get one shot at it. If humanity creates a massively intelligent machine and then it just takes off and takes over and does real damage, then it is too late. So we need to be thinking about it before it gets built.

This is politics. This is Phase IV now starting. So all of this is new relative to the book that was written almost 20 years ago.

Blazer: Yes, but you seem to be right on target.

de Garis: I just hope that I am wrong about Phase V. I just do not see a way out. Do you?

Blazer: The way out is asymmetrical, and the way out is an awareness and a consciousness that is not measured by IQ. It's an awareness that goes to the very foundation of what humans are and what life is about. We have to anchor ourselves in that as a way out.

de Garis: Whatever qualities you want, the machines could potentially be vastly superior in whatever the criteria is that you are choosing. So how would you avoid that problem?

Blazer: That is what you and I disagree on. I do not believe that all of life can be digitized. Life on this planet can be digitized. Life in the galaxy can be digitized (digitization can be attempted), but there will be a whole component of life and the potential that is in life that will be absolutely destroyed. I see all of these technologies – because they are so powerful computationally and all of the features and all of the things that they can do and how fast they can do it and the whiz bang and everything else – as tremendously impoverishing in another way.

With every technology, there is great promise and great danger. People are celebrating the internet because it brings the world of knowledge. With a Google search engine, it's astonishing what you can search and get in the fraction of a second. It's just astonishing!

At the same time, it is the greatest surveillance tool ever invented if you could invent one. It's the most invasive tool on everybody's freedom. But not only that, but they are using it. They are using it to come up with brain profiles of people –psychological profiles, behavioral profiles – of the people who are on the keyboards. Now I can distinguish who is there just by the way that they are operating the keyboard.

At some point you have to understand what the consequences are of embracing these technologies, and then you have to make a very simple choice. Are you going to be a free human being, or are you going to be a slave?

That is where this is leading, and it's a fundamental question that humanity has always faced. I don't care if it's a slavery that comes through religion, comes through political systems, or anything else. That is the fundamental question that faces humanity.

Do you want to live a free and inspired life, which is the mission of Solari as defined by Catherine Austin Fitts, or do you want to be a slave?

That is what you have helped elucidate. The incredible dangers you have expressed through war, which is a very powerful form of slavery and force. Are we going to be a species of force, or are we going to be a species of creative thought?

I know the way that I solve problems – through intuition and many, many other ways in how you put things together, and if you have a sense and a gut feel and all of the neurons that are in your digestive tract. We don't have any sense at all about how the simplest systems on this planet work - from a systems perspective. We have no idea.

You take a look at vaccination science, or anything, - it's primitive. And yet we have the audacity to think that we are going to build this super-intelligent shit that is going to solve all of our problems. Why don't you first get an understanding of how soil works? We have a very, very limited understanding of that.

Why don't you get an understanding of what water really is and the astonishing capabilities that water has in terms of memory? Is it just by chance that that is the main substance that this planet runs on? It goes on and on. Look at any living system.

But we are going to go geoengineer climate and then blame it on climate change because of CO_2 while for the last 20 years we have been chemtrailing the entire globe and using HAARP to change weather. Now we are finding out about this stuff. People have been talking about it for 20 years, but now finally it is obviously totally clear. There is a huge amount of evidence now to know that (this has been done and is being done).

So what else have we been geoengineering and screwing up that requires a solution from the engineers that they engineered in the first place so that they could get more of us? That is what I believe, and I believe that Catherine feels the same way. That is how we look at the fundamental problem.

The biggest question that I have is: Just because you can do it, should you?

de Garis: Indeed.

Blazer: This guy at MIT is asking the same question: Just because you can, should you?

de Garis: Are there times when you look at the stars, and you feel that you are a Cosmist, like there are bigger things?

Blazer: Of course there are bigger things. That is why I want to have the opportunity as a human being to experience it – not as a cyborg, not as an AI-dominated creature - but as a human being. Our potential is way beyond what it has been described as. It's not described by IQ. It's not described by how many pounds you can deadlift. It's not described by how much money you've got.

There is a whole other way that we connect with the universe if we are allowed to – if you develop the skill to do it. That is what is most fascinating to me.

I don't feel puny when I look at the universe that has supposedly now two trillion galaxies with hundreds of billions of stars in each one. Not every star will have a planetary system, but there are plenty of them. So there absolutely is other life in the universe.

Is there other human life? Who knows?

Are we in an engineered planet? There are arguments for that. How did the moon end up being the way that it is, and all of these other things that are remarkable about the moon just being where it is and how it operates. Without it, you wouldn't have life on this planet.

Is that basically an artificial satellite that was put here by a greater intelligence? Are we basically an experiment? Has there been intervention in our genetics through the ages and through something else? Are we a subsidiary of a larger galactic business that is AI-run?

The grays that everybody talks about – are they basically a merging of biology and AI that is controlled by a much smarter thing?

Yes, I am open to all of this.

de Garis: My suspicion is that the laws of physics themselves are engineered. I learned so much math in physics now that I am deeply, deeply suspicious that the laws of physics have been engineered because they are so mathematical.

Blazer: And they are also so precise. You need that precision in order to have life.

So maybe the entire universe as we know it is engineered. So maybe there is this parallel universe and whatever else there is. None of that scares me because I'm secure in being a human and knowing what that potential is. I feel a connectivity to something out there. I don't feel that I am just planet-bound in terms of Mind and in terms of what people describe as 'spiritual'. I don't use that term very much, but I respect what they say because we don't have another term to describe a lot of this stuff.

So we have connectivity that is non-digital, non-wireless, and non-5G. All that stuff interferes with the connectedness that we have. It interferes with Schumann resonance. It interferes with some of the foundational electro-magnetic stuff that promotes life.

I don't think that is a coincidence. I think that is engineered. I think that it is engineered for control. I don't want to be controlled by the people who are in control. I want to be free. You want to be free.

Fundamentally that is what is driving you. You look at that as the ultimate infinite freedom – to have an infinite intelligence that is capable of communicating with the universe in a totally unbelievably, incomprehensible, profound way that is yet to be understood, and that maybe can only be understood by Artilects. That is why I asked you the question: Can an Artilect be irrational and illogical? It is interesting because humans can.

Maybe Dostoyevsky has something to teach us about that. We look at that as always bad, but is it? How many things have been described as irrational that ended up being very powerful – like intuition? Intuition is irrational to a scientist until they come up with some model for it that fits in with some math or physics or something else. But it was there before you figured out your math and physics. And what makes you think that your math and physics describes what that is?

No. Your math and physics describes a mathematical and physical explanation of what it is. It's self-limiting. Just like the laws of thermodynamics. These are laws that human beings basically figured out by doing pressure tests in a closed container on the planet Earth, and this is what is basically going to rule. It's a law that humans came up with for the entire universe. How is that for arrogance?

de Garis: Or universality.

Blazer: Yes, but come up with anything that contradicts the three laws of thermodynamics and a physicist would tell you that it is impossible because it violates the laws of thermodynamics. Of course, it may not violate it on a universal scale, and he doesn't even know that, but it is interesting. We come up with these 'laws' for the universe by doing these incredibly primitive experiments, and then we say, "Oh, we are so smart because we figured out the speed of light," which is a constant, but which is not a constant. But nobody looks at the anomalies in the speed of light and says, "Hey, you guys talked about the speed of light being a constant, and it's always this, and it's the same everywhere, and that is the foundation for all of our physics and the theory of relatively and everything, but it's not; it varies in speed".

What I would say is this: There is a push towards productivity, and middle management is being displaced.

By 'middle management' I mean guys like John Gotti. When the CIA finally has their act together when it comes to drugs and assassinations and you have AI and other things that can basically target people incredibly more efficiently than the way Catherine was targeted 15 years ago by the government in 16 different agencies that cost the taxpayers $45 million and cost her $10 million – never mind 30,000 hours of her time – you can do that now much more efficiently. So you don't need a lot of these other people in the middle.

People think, "It couldn't happen to me," but I see huge swaths of people who are not needed anymore by the machine. That is a major problem for the Earth, and that is the other reason why there are experiments now in assured income like they are doing up in Norway and so on – not only because so much money has been stolen and pension funds are targets and social security has been used. There is a bond (a piece of paper) there that represents the good will and faith of the United States that they took the cash to run the government with.

There are huge amounts of resources that have been concentrated, and there is an increasing need because of technology – or lack of need – for a lot of jobs that are being done by people right now.

If you get enough people on enough drugs – and you should research how much drugs people are taking these days. I'm talking about pharmaceuticals. They are even being taken at a very early age. If you get enough people on drugs, and you get enough GMOs in their diet, and you get enough autistic kids because of vaccines and other things, and you put enough blacks in jail so that they aren't a problem, and you get enough alcoholism going on within the Native American people, which has one of the largest suicide rates, and you get farmers to kill themselves (the highest suicide rate is among farmers), and the highest suicide rate of states in the United States is in Montana (my state). So I guess if you are a farmer in Montana you're in trouble.

You get enough of the population debilitated, and they are not going to be able to fight. You're taking the fight out of the resistance to a large extent.

Just think about the amount of scenarios you can run, and even the supercomputers that we have now. You were in Utah. They have that $2 billion data center that the NSA built just to collect all of the data in the world and keep collecting it for however they want to use it in the future and however they want AI to look at it. Just think of the amount of scenarios that have been run by the people with these computers whose job it is, and they get paid in these think tanks, to do scenarios. Everything has been scenarioed.

I look at a level of control that is much beyond what most people understand exists. They still think, to a large extent, that their vote counts, that their representative is actually representing their interests, and that the President of the United States has real power. We are living in this whole state of illusion about where the power, where the money, where the decisions, where the technology is being controlled from and how robust it is.

We are much further along on this AI thing than even you would think we are. It may not be the massively intelligent Artilect that you are talking about, but it has the ability to affect human behavior across the globe, and we have the connectivity through our cell phones and through our wireless networks and through all of these other things that are being put through the astonishing amount of satellites that are being put up hundreds at a time now. These little softball-sized satellites are being put up that can do the work of gigantic satellites 20 years ago.

It's a prison planet. To me, Catherine is one of the most important people in terms of expressing how our freedom and how our ability to live a free and inspired life is in jeopardy.

de Garis: How did you two meet?

Blazer: We met because I heard her on the internet. She was doing a speech. I contacted her because she was going to be somewhere. I was busy at the time and I couldn't be there, so I said to her, "Can I pay you to video record it because it will be cheaper than me going anyway, and then I would have the possibility to listen to you because I'm enjoying very much what you are saying."

She said, "That's a good idea." I gave her the money to do that, and then she used that video on her site, and then she said, "Who is this guy who is asking this?" She wanted to know more about me, and she ended up – within a relatively short period of time – coming out for nine months to Montana. She taught me about the real deal.

I was already pretty deep into it, but she really perfected my models. Today we communicate very regularly, and she has it figured out as well as anybody that I know. Basically, she understands the money. She always goes back to the money, and it has to make sense in terms of the money. That has worked very well for her in terms of concentrating on money and money flows and the psychology around money and the power that money brings and the whole power structures involved with money.

Hugo, it has been a pleasure. I really appreciate your time. I am going to let you go at this point, but we know how to keep in touch, and I hope that you have enjoyed this conversation as much as I have – or at least somewhat.

de Garis: Yes. I probably enjoyed it a lot more because, remember, I live in a cultural cocoon.

Blazer: Stay safe. Stay under the radar so that you can get out of there all right.
I will let you go. Thank you so much.

de Garis: Goodbye.

MODIFICATION

Transcripts are not always verbatim. Modifications are sometimes made to improve clarity, usefulness and readability, while staying true to the original intent.

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