

Physics and Indian Spiritual Tradition

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I begin with issues concerning all of us—the life and death questions, so to say. What really happens when we disappear from this planet? Where do we go? Who, and what do we become? I formulate these questions and try to find tentative answers to them.

We have different concepts of divinity in both the Western and Eastern religious traditions. In most Western religions, specially Christianity, God is personal, for in the West we tend to have a personal concept of God. In the Eastern tradition, as I understand it, God is perhaps more diffused, of course if ‘diffused’ be the correct word. What I mean is that here God is intertwined with the physical universe, without necessarily having any personal attributes that our personal consciousness can relate to. And the same concept applies to the ideas of the Self and afterlife. We have different ideas and different concepts of afterlife in Eastern and Western spiritual traditions, such as reincarnation, resurrection, *nirvāna* and so on. We in the West are very much emotionally attached to our self. We are not happy thinking that after death we will just merge into the universe at large. We want to think that something of our own personality and individuality will persist even after death.

Before moving onto other things I want to mention that in Western philosophy we are beginning to come more and more closer to some concepts that prevail in the Eastern traditions. For example, we have a

theoretical framework called open individualism which has been described by Daniel Kolak, an American philosopher, in the book *I am You*. The central thesis of the book is that we all are the same people which I believe is a concept of the Eastern spiritual tradition. This makes sense which I believe is scientific.

I take all this open individualism of the West to be a minimalist theory of reincarnation because it does not make many assumptions on the nature of either the human consciousness, or the universe at large and gives essentially an acceptable idea, in a psychological sense, of the biggest question that we ask ourselves—how can we think to persist in the afterlife. *We persist in the afterlife because everyone is the same.*

The metaphor of windows

I would like to use a metaphor here—the metaphor of windows open to the world. You see that there are many windows. But the view from one particular window would not be exactly the same from some other windows. There would be some difference. This reflects the difference of perceptions between different persons. I am myself, and you are yourself. We are different persons. But what we have in common is that we are all alive on this planet earth at present. And this thing that we have in common is perhaps more important than things that separate us.

We have many windows from which we see many different things. But we can think

that there is that one person looking at us from behind and thereby knowing us. So what happens when something that we see disappears from our view? It is just like the outside view that disappears when a curtain is drawn in front of a window. What happens then? You may say that nothing really too unpleasant happens because other windows are still there to view out from. So from the perspective of the one mind looking out simultaneously from all the windows, the disappearance of the content of one window does not seem to matter much as all the other windows are still always there. This I believe is a nice metaphor to think of the minimalist idea of resurrection.

Let us move onto physics which is advancing spectacularly. To elucidate this concept I have chosen the book that was written almost ninety years ago. The book is *The Mysterious Universe* published in 1930. There the author mentioned the spectacular revolution that happened in physics in the first thirty years of the last century with the first developments of Einstein's Theory of General Relativity and the beginning of Quantum Physics. Today we can add a couple more things, for example, the development of Quantum Field Theory and the Standard Model—the developments seen in the condensed matter of physics. But one thing seems equally valid today as was ninety years ago when James Jeans pointed out that physics is not yet in contact with the ultimate Reality. I think we can still say that we do not know what ultimate Reality is. I would give you some examples, some intriguing concepts, that would show how far we are as yet from a clear idea of what the ultimate Reality is. Besides science, we have engineering and technology which are also advancing very fast. Every day in the newspapers we read of some kind of

advancements made in these fields of scientific knowledge. Some technological developments are really becoming like a science fiction. We can do things now that would have been considered a science fiction two or three generations ago. My grandfather would have considered the cell phone a magic which we all are having in our pockets these days. All these appreciation and enthusiasm for what technology has done and what technology will probably continue to do is described in the literature of a philosophical movement called Transhumanism. The Transhumanism philosophy is outlined in an anthology called *The Transhumanist Reader*.

The philosophy of Transhumanism

The transhumanists think that there is no a priori limit that can be placed on the development of technology and science. The future generations would be able to make this world a magic place using technology, just like 'our world' would have been considered a magic place by the people a couple of generations earlier.

I want to mention a new grammar in scientific theology called the 'simulation hypothesis'. It is the area that some of you may be familiar with. This new formulation basically says that our world and our reality is a video game which is being run on some kinds of hypercomputers in some kinds of hyperrealities, higher in some advanced civilizations, and we are very naive to them while we try to formulate our scientific concepts.

Elon Musk, a star entrepreneur technologist and one of the best known people in the technology world, who sent his sports car to the outer space, once said that he very much believes in the 'simulation hypothesis'. He said that the number of possible simulated realities is much bigger

than the number of possible physical realities and therefore the probability that we live in a simulated reality is much higher. I do not really bite into that argument, but when someone like Elon Musk says something, at least he deserves being listened to.

The point I want to stress here is that the ‘simulation hypothesis’ is particularly equivalent to Christianity. It is nothing more, and nothing less, but is e-x-a-c-t-l-y the same as Christianity. We have a Creator who created the universe and can run the universe according to His intentions. He can, if he wants, violate the physical laws of their simulated universe which are not necessarily the same laws of the home universe, but He can do whatever He wants acting in our reality which, from His point of view, is a computation. He can grant everyone an afterlife to any frame He may think of. So we have a Creator who is presumably omniscient, omnipresent and omnipotent and this is the simplest formulation of the Western religion of Christianity. So we can think of this simulation theology and my message here is that this family of speculative theologians is exactly equivalent to Christianity and very similar to other religions.

Let us have an example of what is meant by *simulation* and *computation*. We are all familiar with video game in which we can create realities. But let us consider something simple. Consider a simple cellular automaton like the well-known Game of Life invented by the British mathematician, John Conway. Here we have some very simple rules of evolution which say what will happen to one cell in cellular automation—for example, the time-step. The cell can stay white or can become black. Each cell is in one and only one state. There are simple universal black and white cells. There is a

very simple mathematical way to compute them and there is a symbol or representation which is a life pattern that evolves in time growing to infinity. It starts with initial configuration and then it starts moving, and leaves behind in its wake that could be seen as DNA-shaped eggs. And this is the evolution of biological life. We can have a very simple simulated physics that is able to generate something that looks like life. In fact, John Conway himself thought that given mathematical space, which is big enough, it is perfectly plausible to think that intelligent life could evolve in this simulated universe. Eventually, tangible species might evolve from the same kind of selected pressures that operate on earth.

Modern science of cellular automata is being developed by mathematicians. Stephen Wolfram has written a very thick book titled *A New Kind of Science*. He thinks that cellular automata could be utilized to explore how fundamental physics operates in the machinery behind space-time. It could perhaps also reveal the structural fabric of reality.

Mystery of quantum physics

The American mathematician Ralph Abraham and the Indian physicist, Shishir Roy, have written a book a few years ago called *Demystifying the Ākāsha : Consciousness and the Quantum Vacuum*. They elaborate on a concept similar to Wolfram’s idea to look for a discrete cellular automata-like model behind the scenes of everyday reality. What is interesting is that this model seems to leave enough room for the concept of a permanent memory of the universe. It is sort of some information-store where all information that has ever been produced in the universe continues to be preserved. It is this concept that has been called ‘Ākāshic’ records in ancient

traditions. So physics is beginning somehow to move toward that ancient wisdom. For example, we have known quantum physics for about 120 years now. But still it is mysterious and the Nobel Prize winner Richard Feynman says that, if you do not think quantum physics to be mysterious, that means you do not understand it. For example, quantum particles sometimes appear as waves and sometimes as particles and sometimes as both wave-particle-duality that no one is able to understand intuitively. How can something be both a square and a circle! Well, as a matter of fact, something can be both a square and a circle because three-dimensional objects mean something more complex than what can be captured in two-dimensional geometry. A three-dimensional object can have both a square and a circular projection and this is a good point when we try to think of quantum physics. It is not a particle, not a wave, but something else, something that our two-dimensional imagination is unable to visualize. In this sense, quantum physics is mysterious.

One of the most frequently mentioned mysteries of quantum physics is entanglement. That is the phenomenon which creates instant correlation between things existing separately and distant from each other. Instant correlation seems to propagate faster than light even though it can be demonstrated that it is impossible to exploit entangle correlations to exchange information. So causality and relativities are still safe but the correlations are there. This truth has been found not only theoretically but also experimentally. This metaphor helps us to think of entangle correlation.

There is an example given by physicist David Bohm, one of the founding fathers of the second wave of quantum physics development. There is a magic pair of fishes

and what is magic about them is that when the first fish does something, the second fish does the same thing—whether turning right, or turning left. Thus the two fishes are correlated and this correlation is independent of the distance that seems to operate faster than light. Though this seems apparently very mysterious, actually it is not because the two fishes that we thought of as different are in fact two images of the same fish. We have just one fish through video camera looking at both fishes and showing the fish onto two different screens from two different viewpoints. So if one turns left the other one will also turn left, because they are one and the same fish. This is a useful way to think of some situations that we encounter in quantum physics.

Many of you must have heard words like interpretations of quantum physics. Since quantum physics does not really decide exactly what will happen in a given physical situation, it only offers probabilities, not definite outcomes. We can think that many different realities coexist like different sheets of paper, each with a different history written on it. And the universe could be moved towards many different realities existing parallelly or it could be one single universe, one single sheet of paper. But in this case we would have to have an idea of how the decision is made and who makes that decision.

Here let me quote another founding fathers, but this time, of the first wave of quantum physics—Erwin Schrodinger who said that the choice is made by mind. But this time the questions becomes: By whose mind? My mind, or your mind? It can be any. The fact is, the choice is made by one mind of which our individual minds are reflections.

A lot of the founders of quantum physics said exactly this. And it boils down

to a concept that I believe is commonly placed in Indian spiritual traditions that Ātman, the Personal Self and the Brahman, the omnipresent, all-comprehending eternal Self are essentially the same thing. I only mention Schrodinger for short but many scientists are saying this more and more.

Let us come to one of the newest families of scientific theory that is developing very fast. It is the theory of condensive matters systems like the superfluid, superconductors, 'exotic matters' which can be considered a quantum matter because these are systems where long range coherent quantum effects become important. All the constituents of quantum matter know what all the rest of the material is doing by entanglement. The organized behaviour of small things gives rise to big things. As a matter of fact, not all wear glasses but some wear. If I take my glasses out I can only see big things. This makes us think that perhaps things what we see and what the scientific instruments see emerge from the organized behaviour of things smaller.

There are theories that exactly show how our brain works. The process of memory and consciousness formation in the brain is a result of quantum behaviour, intrinsically, of the matter that constitutes the brain. So the brain can be considered a form of quantum matter. There are some theories which seem to say that space-time itself could be considered a quantum matter. The concept is not strange as it seems. It has been known for decades that there are very strong similarities and analogies between condensive matters in physics and fundamental physics in the vacuum. A very highly recommended book called *The Universe in a Helium Droplet* makes a very convincing case that the physics that we see could be nothing but the behaviour of a micro-physical world that we do not see yet.

These unknown micro-physics of the quantum vacuum could make space-time itself behave as a quantum matter.

In a picture we see big ghost-like things and other small things. The idea is this—the ghost world is our world. What we see as the ghost-like formations are particles and fields and gravitational fields itself. All these emerge from an underlying substratum of micro-physics that we do not perceive at this moment. The fabric of space-time and the space-time itself could behave like quantum matter which means that if all these ideas are correct we have similar physics in the brain and in the vacuum and we could have mind-like processes in the quantum vacuum itself. I am not elaborating on this point but I mention that the chain does not have to end here. We can have one level of reality and below another level of reality and one more below . . . and new forms of matter all the way down.

Let us come back to the point. If the same physics happens in the vacuum as it happens in the brain, then we could have intelligence in the fabric of space-time itself and this intelligence could become super intelligence very fast. All these quantum fields physics and particle physics are much faster than geology.

So it is possible to think that evolution could take place much faster in this realm and lead to the emergence of a god-like mind in the very structure of space-time itself of which our mind is a part. Our mind is a part of a big mind and encoded in the structure of reality. That gives a plausible answer to the question of what happens after death. After death our mind goes back to the vast mind of which it really was always a part, and this seems logically a sound solution to the question of what becomes after death.

I said in the beginning that, for us in the

West, it does not sound that good—I do not want to think that I will continue to live as a part of a supermind. I would like to think that I would continue to live as myself. And perhaps also many of you feel the same way.

This concept of an abstract impersonal God is encoded in the fabric of the space-time. There is a scientist named Mani Bhaumick who wrote a very good book—where he basically describes the same idea that I just described about an impersonal mind encoded in space-time. But this is still an impersonal God—something abstract, something diffused. It is not a God that we can relate to emotionally. But perhaps the cosmic God can learn from life. This is a concept that is explained very well in one of the masterpieces of science fiction literature. But what happens at the end of the book is that God starts learning from His creations and becomes also a personal God.

I want to make an analogy here without meaning anything disrespectful. The relation between God and man is the same kind of relation that we have with our dogs. A dog is not at home with his environment in a car seat for which a dog is not prepared. I am much more complicated than my dogs. For example, they won't understand anything about my words here, but having had dogs for a long time I have learnt how to make myself understood to them. So if they cannot rise to my level I know how to descend to their levels and make myself understood to them. I can understand my dog within some limits, and my dog understands me within some limits. So if the God of the cosmos becomes a personal God and if He loves us, then perhaps a personal loving and caring God could provide a personal afterlife. One of the symbols of Western technology is Nicola Tesla who said that the day science begins to study normal physical phenomena

it will make more progress in one decade than it did in all the previous centuries. I have to qualify one of Tesla's statements—ie the non-physical phenomena. It does not mean phenomena that cannot be studied by physics—it means phenomena that cannot be studied by physics as we know of physics today. The idea is that physics will permit understanding more and more of the world including those aspects of the world that we call only non-physical today.

I think these quests for what I call 'akashic engineering' is an ideal fusion of Eastern and Western thinking and perhaps our condensive matters engineers will be able to build real worlds into new forms of quantum matter which is something that is very much discussed in Mormon theology. The Mormon scholars say that the end point of engineering knowledge may be the divine knowledge. We will learn how to understand God and within limits we will learn how to act like God through science and technology.

In Mormon theology there is a difference between God and man, but that difference is not as huge as in other theologies. Basically, in Mormonism God was once like man as he is today, and conversely man could become like God. Mormonism is not well known even in Europe and in most of the United States. And, as a matter of fact, most Mormons live in Utah around the Salt Lake City, US. Lincoln Cannon, who is one of the founders of this Mormon Transhumanist Association once said if he was not a Mormon he would be a Hindu, and he still says that and thinks that because he sees many fundamental parallels between Mormonism and Hinduism. It is interesting to think and speculate all that.

This very intriguing philosophy was developed between the end of the 19th

century and the beginning of the 20th century by a group of thinkers known as Russian Cosmists.

One of the best known is Nikolai Fyodorov, but even better known is his student Konstantin Tsiolkovsky, known as the father of modern astronautics in Russia, and in the rest of the world. The Russian Cosmists can be seen as Christian transhumanists. The main thing in cosmist thought includes the active human role in human and cosmic evolution, the creation of new life force and the physical resurrection of the dead. To resurrect is a scientific objective that could be achieved through engineering and it is the big gift the Russian Cosmists have done to humanity. I think they were a real precursor to the Transhumanist Movement, but much more

than that. As a matter of fact, the Cosmists were much more radical and visionary than the Transhumanists of today.

So putting all together, the idea is that through science and technology we will gain access to the deeper reality and break out from the field of reality in which we have been confined so far, and gain access to another part of reality that we do not perceive right now, but which we could perceive in the future, and within this deeper reality there will be the answers to the big questions that we ask ourselves today including the question—where are the dead people who disappear? The idea is that using science and technology we will become cosmic engineers in God’s control room, transform the universe and resurrect the dead. ■

* This article is based on the transcript of a lecture Dr Prisco delivered at the Institute on 10 February, 2018.

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into those files we store Mother. What happens then? Obviously, whichever file we click, only Mother comes, for nothing else is there. That requires practice and discipline. The Mother says that discipline is the most important thing in meditation. Till we are able to discipline ourselves to train our minds, we must always keep in mind that if we fail to do so right now, Mother is there to help us. We are not alone, we have been very fortunate because we felt that the Mother’s energy is passing through some swamis and Matajis. I asked a stalwart swami in Hyderabad hundreds of times, ‘Maharaj! How are you today?’ He replied every time: ‘*Mā āchhe ār āmi āchhi, bhāvana ki ār āchhe āmār.*’ That is to say, ‘Mother is there with me all the time; I have no worries.’ Imagine, he can’t

think of a reply saying ‘I am fine, or today I am better or today I am not well.’ Never. That leads you to think immediately of the Mother.

The Mother’s love inundates us through all this. Whoever goes to Jayrambati or to ‘Mayer bari’ at Baghbazār, he or she is fed with great affection and that affection, that family feeling brings us to the meditation of the Mother. All we have to do is to do a little bit of tuning the instrument as the musicians do. After every song I have seen that the musicians need to tune their instruments. Our day is full of so many experiences. At the end of each experience, if we do a little bit of tuning, then the Mother is not far away. And meditation becomes a natural state of our thought processes. ■

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