

## **VEDANTA CENTER OF ATLANTA**

Br. Shankara

### **John Dobson's Equations of Maya**

February 3, 2019

## **GOOD MORNING AND WELCOME ... ANNOUNCEMENTS**

- **Feb. 9 @ 10am-2pm**

### **Seva Saturday for February**

Let's have a great turnout again, as we did for January! So much needed work gets done when you show up! We need your commitment to our success! Come and stay as long as you can; a delicious lunch will be served at 12:30pm.

## **Next Sunday's Talk**

- **Feb. 10 @ 11am**

### **Decoding the Chandi**

w/**Swami Harinamanandaji**

“We will take a journey into this popular text, the *Devi Mahatmyam-The Glory of the Goddess*, go through the three stories of the Chandi, discover their meaning and understand the importance within our own lives as spiritual aspirants. Reading and understanding the Glories of the Divine Mother is a great spiritual practice, which can awaken and illumine our own inner consciousness and give us strength to face the inevitable obstacles of life.”

Please come for the Swami's talk, then stay for

the reception and CATERED lunch (NOT A POTLUCK!) that follows.

- **Feb. 17 @ 11am Swami Brahmananda's Birthday Celebration:** Short talk followed by puja w/ Aditya as our pujari — Afterward, we'll share a potluck prasad lunch in the Monastery. **Shrine decoration** begins at 10am, followed by a short talk and the worship at 11am, then our potluck prasad lunch at 12:30pm. If you are bringing food to offer, please have it here no later than 11am! As always, we need you to volunteer — you can help with puja prep, or serve in the kitchen. Puja assistants, please be here by 9:30am; kitchen people by 10:30am.

## **CHANT • SONG • WELCOME • TOPIC**

### **John Dobson's Equations of Maya**

We start this month with study of Bhakti Yoga. As a bhakti yogi, you establish a devotional relationship with God through study, prayer, ritual, and worship. You practice giving every action, thought, emotion, perception and tendency “a Godward turn.” All your energies and attributes, both positive and negative, are offered to the Divine Presence. Your prayer is for self-surrender, union with your Belovèd.

Let's see how we can approach an analysis of Maya, as a bhakta. **John Dobson, who was an astronomer, student of human history, and Vedanta philosopher — wrote:**

“Modern cosmologists usually take non-existence for granted and hope to get the Universe out of nothing. But must we assume that in the absence of the Universe and in the absence of space and time, there would be nothing? Or can we, without so rash an assumption, find clues to what might remain if instead we take existence for granted but leave out space and time? Could what remains, through apparition or maya, appear as this Universe? Can we, from what remains, get a Universe of gravity, electricity and inertia?”

*If you can't explain it simply, you don't understand it well enough.* — Albert Einstein

Dobson was a master of explaining Advaita Vedanta simply. This morning we will explore and discuss his detailed, yet very clear descriptions of how Brahman appears to us as this Universe.

*“There cannot be two existences, only one.”*  
— Swami Vivekananda

Swamiji's remark is a clue about how to see what we're about to hear from a bhakta's perspective.

The bhakta sees all of existence — however it may be perceived — as a manifestation of God’s glory, a reason for awe, reverence, devotion, and selflessness.

## **Introduction**

Dobson wrote *The Equations of Maya* as a talk for the 100th anniversary of the 1893 Parliament of Religions, at which Swami Vivekananda so eloquently proclaimed that all religions are true and that the proof of one is the proof of all.

Dobson asked: *“Can we, by now, (also) square science with religion? In particular, can we square relativity and quantum mechanics with Swami Vivekananda's Advaita Vedanta? Since there cannot be two worlds — one for the scientists and one for the mystics — it must be that their descriptions are of the same world but from different points of view. Can we, from the vantage point of the swami's Advaita (non-dualism), see both points of view? Swami Vivekananda said that science and religion would meet and shake hands. Can we see things from his vantage point?”*

*“Since the notion of maya or apparition as the first cause of our physics is central to the swami's Advaita, I have chosen as my subject ‘The*

*Equations of Maya.' Can we find them in our physics? According to the philosophy of the Advaita Vedantins, as the swami himself has said, there cannot be two existences, only one. And maya is, as it were, a veil or screen through which that oneness (the Absolute) is seen as this Universe of plurality and change."*

To discuss The Equations of Maya,

*"First, we have to know what equations are. Second, we have to know what the Vedantins mean by maya. And finally, we have to take a hard look at our physics to see if any of our equations can be taken as descriptive of maya.*

## **WHAT ARE EQUATIONS?**

*"So, what are equations? They are a kind of mathematical shorthand. They are just brief statements, usually in symbolic form like  $2 + 2 = 4$ . If you put that in English, it reads, "two plus two equals four." There's nothing scary about it. But essentially, there are two kinds of equations: mathematical equations, like the one just mentioned, and the equations of our physics. But mathematics is not about anything. Two oranges plus two oranges equals four oranges is about oranges, but  $2 + 2 = 4$  is not about anything.*

*Now physics is about something; it is about how matter behaves. So the equations of physics are about the behavior of matter, and that's what concerns us here.*

*Newton's famous equation,  $f = ma$ , put into words, means that the force required to accelerate an object is proportional to the product of the mass of that object and the rate of change of its velocity. That means that when you're pushing a car to speed it up, how hard you have to push depends on how heavy the car is and how fast you have to speed it up. All that is contained in that little statement,  $f = ma$ . It's just a kind of shorthand, and it's not scary.*

## **WHAT IS MAYA?**

“We've talked a little about equations; now we have to talk about maya. What do the Vedantins mean by maya? First, we know from the Upanishads that it is made of three gunas: tamas, rajas, and sattva. Tamas has its veiling power ... Rajas has its projecting power... and sattva has its revealing power... Now this language, "veiling" and "revealing," is the language of perception, not the language of manufacture.

You can't make anything out of a guna as the Sankhyans wanted to do.

These three gunas, of which maya is said to be made, are just three aspects of a misperception. They are not substances, like wood, stone, or gold, out of which objects could be made. They are simply three aspects of an apparition.

In order to mistake a rope for a snake, you must fail to see the rope rightly; that's the veiling power of tamas. Then you must jump to the wrong conclusion; that's the projecting power of rajas. You yourself project the snake. But the length and diameter of the rope are seen as the length and diameter of the snake; that's the revealing power of sattva. If you hadn't seen the rope, you might have jumped to some other wrong conclusion.

So we see from the Upanishads that maya is made of three gunas, that it is a misperception, a kind of magic, and that the Universe is therefore apparitional, like the snake for which a rope has been mistaken. But why does the apparition take the form of this Universe? Why do we see the physics that we see? Partly it is the gunas and partly it is space and time.

Swami Vivekananda said in one of his lectures that the Universe is the Absolute seen through the screen of time, space, and causation ...

He said that time, space, and causation are like the glass through which the Absolute is seen, and when It is seen on the lower side, It appears as the Universe. So not only is the Universe apparitional, it's the Absolute seen through time and space, and that allows us to understand why the physics of the Universe takes the form that we see...

Now Swami Vivekananda's statement that the Universe is the Absolute seen through the screen of time, space and causation allows us to get some interesting information, albeit in negative terms, about what he calls the Absolute. Since it is not in time, it cannot be changing. Change takes place only in time. And since it is not in space, it must be undivided, because dividedness and separation occur only in space. And since it is therefore one and undivided, it must also be infinite, since there is no "other" to limit it.

Now "changeless," "infinite," and "undivided" are negative statements, but they will suffice. We can trace the physics of our Universe from these three negative statements.

...

But because of the revealing power, the changelessness, the infinitude, and the undividedness show through. ...

## Apparitional Causation

... When you mistake a rope for a snake, the rope is not transformed into a snake. It's just a mistake, and it's something you're doing now. So the question is not: "How did the Absolute become the Universe?" That can't be answered. The Absolute has not become the Universe. The question is, " Why do we see it that way? Why do we feel that we are bound? Why do we continue to make this mistake? Why are we unable to see through the apparition?" And that can be answered.

On December 14th, 1882, Vijaykrishna Goswami asked Sri Ramakrishna this question: "Sir, why are we bound like this? Why don't we see God?" And Sri Ramakrishna answered:

*"Maya is nothing but the egotism of the embodied soul. This egotism has covered everything like a veil. 'All troubles come to an end when the ego dies'. If, by the grace of God, a man but once realizes that he is not the doer, then he at once becomes a jivanmukta. Though living in the body, he is liberated; he has nothing else to fear."*

## **What Is Egotism?**

So maya, the first cause, is made of three gunas and consists of seeing the Absolute through the screen of time, space, and causation -- and we continue to see it thus because of egotism. What is this egotism?

Those of you who have read Erwin Schrödinger's little book, *What is Life?*, may already see that egotism is a genetic invention to keep a living organism alive. ...

### **Prime Directives**

The prime directives of the genetic programming are to ... (breathe and to eat,) and to pass on the genetic line. And the egotism required for the fulfillment of these prime directives is what Sri Ramakrishna referred to as the "unripe ego." The discrimination is made between the organism and its environment for the sake of fulfilling these directives.

Sri Ramakrishna, when speaking to men, referred to these prime directives as "woman and gold" -- "gold" for directing a stream of negative entropy upon the organism, and "woman" for passing on the genetic line.

When speaking to women, he said "men and gold." He often said, when speaking to men, "maya is nothing but woman and gold."

## **Genetic Programming**

...

You remember that the question (is) not how the Absolute has become the Universe, but rather why do we continue to see it that way. And the answer is that it is because of egotism, and that egotism turns out to be nothing but our genetic programming. It is this genetic expectation ... that by following the dictates of the genes we'll reach the peace and security of the changeless, the freedom of the infinite, and the bliss of the undivided. But that is just a genetic mirage.

... So much for that problem. But how about our negative entropy?

## **Negative Entropy**

We get our negative entropy by eating and breathing, and we get it from the plants. The plants get their negative entropy from the Sun. They make reducing agents for their own use, and dump oxygen out as waste.

We munch down the reducing agents and huff and puff on the oxygen, and run around on the canned sunlight. And we feel that we are the doers. It's just a genetic mirage. We are not the doers. It is just recycled sunlight.

Sometimes when you read in The Gospel of Sri Ramakrishna that he says that we are not the doers, you might think that he is asking us to pretend that we are not the doers. No, he never makes that kind of mistake. He is not asking us to make-believe anything. **He is asking us to discriminate between the real and the make-believe and to let the make-believe go.**

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## **THE EQUATIONS OF MAYA**

We have talked a little bit about equations and a great deal about maya. Now we have to take a hard look at our physics to see if any of our equations can be taken as descriptive of maya.

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## Relativity

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In 1905, Einstein changed our geometry from 3-D to 4-D. He put time into our geometry where it belongs. Time and space come into the geometry as a pair of opposites, so that if the space separation and the time separation between two events, say here-now and there-then, are equal, **the total separation between those two events is zero.**

... And that puts the separation between the perceiver and the perceived at zero, because always we see events away from us in space by the trick of seeing them back in time in just such a way that the total separation is zero.

**That separation equation, as I see it, is one of the equations of maya. If this Universe is apparitional, like a dream, then the separation between the dreamer and the dream must be zero.**

It was this change in the geometry that allowed Einstein to realize that what we see as mass (matter) is just potential energy.  $E = m \dots$

**So now we see that matter (mass), as well as energy, is just the underlying existence showing through in the apparition. So that equation, too, is an equation of maya.**

... But there is another revolution that has taken place in our physics which is considered even more basic than Einstein's change in our geometry. That is quantum mechanics.

## **Quantum Mechanics**

Matter does not behave according to our genetic expectations. ... They take for granted that space separations are real, and that causation is transformational (rather than apparitional). ...

There is this deep uncertainty lying at the bottom of our (quantum) physics.

In the late 1920's, Werner Heisenberg pointed out that the product of our necessary uncertainty in where a particle is and our necessary uncertainty in its momentum can never be smaller than Planck's constant over two pi. Also that the product of our necessary uncertainty in when something happens and our necessary uncertainty in the energy of the happening can never be less than that same amount. **This is Heisenberg's uncertainty principle, which I take to be another of the equations of maya.**

**What it says is that if we see what we see through the screen of time and space, we cannot quite tell what it is that we see.**

## **Summary**

These three equations, as I see it, are some of the equations of maya. Einstein's separation equation sets the separation between the perceiver and the perceived at zero. The dream is in the dreamer. We see the bright star Sirius eight and a half light years away from us by the trick of seeing it eight and a half years ago. ...

Einstein's more famous equation,  $E = mc^2$ , in which "energy is set equal to mass," is the equation which Swami Vivekananda had hoped to get from Nikola Tesla (in 1895), because, as he said, "There cannot be two existences, only one." And Heisenberg's uncertainty principle includes the notion that the observer is always mixed up in what he sees. There is no longer any talk of a Universe independent of the observer any more than there is talk of an apparitional snake independent of the person who is seeing the apparition.

...

Our problem is to reach the goal, to see beyond the screen. You remember that Swami Vivekananda said that the Universe is the Absolute seen through the screen of time, space, and causation. It's no use asking how the Absolute became the Universe. The Absolute has not become the Universe any more than the rope has become a snake. Our problem is to see it straight. And you remember that Sri Ramakrishna said that maya is nothing but the egotism of the embodied soul. And that is genetic. ...

That is why we feel ourselves to be the doers of action and the enjoyers of its fruits. It is just a genetic mirage. The genes have us persuaded that by following their dictates we'll reach the peace of the changeless, the freedom of the infinite, and the bliss of the undivided. They don't have it to give. We don't get the undivided; we get a family. You must have noticed.

Our problem is to reach the goal, and not be hoodwinked by the genes. But this is not a journey from one place to another in an actual world. It is a journey from one point of view to another. That is why it is often referred to as an "inner journey."

It is a journey from an erroneous point of view, dictated by the genes, to a point of view from which we can see through the genetic mirage.

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## **DISCUSSION AND COMMENTS**

### **Regular Closing prayer**