

# Quantum Consciousness—The Road to Reality

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**Abstract:** The prevailing TOE's (theories of everything) do not address everything, and do not mention consciousness that, we say, is linked to information which in turn creates all theories. We present gravity as probabilistic; connect quantum physics to gravity, information, consciousness and forces of darkness in this and/or our other articles referred herein. Physics is on doldrums without explaining invisible consciousness and unexplained constants of Nature. We add our version of the language of Nature.

**Key words:** Quantum Information, consciousness, language of Nature, theory of everything, dark matter, constants of Nature.

## 1. Introduction

This paper adds additional points and more details to the following paragraph that impressed this open-minded journal drafted in December 2015 for the session of the Quantum Biology and Quantum Information for the seminal Conference on the Science of Consciousness (TSC 2016).

Consciousness, like gravity, does not unify with quantum physics. DNA is an information system making information an ingredient of quantum biology. We use information at quantum (Planck) scale to derive Nobel Laureate Feynman's mystical number ALPHA (1/137) in "Decoding the Information of Life" (doi: 10.17265/2159-5348/2015.03.004). We almost did so in our 2011 oral presentation at the conference on consciousness in Stockholm. A week later we published our book: Quantum Consciousness—The Road to Reality. We could not derive ALPHA without using information in cosmology, making information an ingredient of gravity and biology (consciousness) combined, making Planck scale information a necessary ingredient of the realistic theory of everything. Wave nature of material particles, the uncertainty principle, and probabilistic aspect of quantum physics and views of giants supplement the view that the quantum particles have information. If

one does not like the ancient views without any mathematical basis, there is one (Vedic Philosophy) that supports the view quasi-mathematically i. e. particles are souls and have knowledge (information) with a mathematical size of the particle as a ten thousandth of the tip of a hair (speculated as an atom) matching the size of a nucleon. Vedic view is quasi-scientific as well. It says that particle souls are indestructible which is consistent with the Eddington number in physics. Nobel Laureate Erwin Schrödinger was impressed by Hindu scriptures and reflected his views in the book "What is Life?" We learn that Nobel Laureates Watson and Crick had Schrödinger's views in mind before they discovered DNA. We are investigating Vedantic symbol 'OHM' as particles creating resonances with ON and OFF signals like the ancient Chinese 'Ying and Yang'. For the derivation of ALPHA, we use 10 dimensions of string theory. We do not rule out the possibility that 10 different combinations of ON or OFF signals create  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 1,024$  or one kilobyte of characters of the language of Nature which we may never know. Vedic Philosophy shows Gods with multiple hands. We are investigating if that is consistent with the spooky nature of quantum physics. The so called theory of everything must include quantum biology (with information) in order for it to become a realistic theory of everything. Science without information is standing on shaky ground.

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Gravity can be calculated. Mass (matter) creates gravity, because mass creates attraction. But what creates attraction and repulsion? Per Einstein's theory mass tells space how to curve and space tells mass how to move. How do they 'tell'? The question boils down to information created by quantum particles blinking ON and OFF analogous to 'Ying and Yang' or some more complex ways that may include dark matter. There is only one Theory of Everything (TOE). Consciousness, dark matter, quantum physics, uncertainty principle, constants of nature like strong coupling, fine structure constant, cosmological constant introduced by Einstein, information, gravitation etc are fundamental consequences of that ONE TOE. Ancient philosophers called it ATMA split in the categories of AnuAtma (particle soul), JivAtma (life soul) and ParamAtma (Omnipresent soul) which we relate to quantum physics, biology and cosmology. There is no separate TOE for any one thing.

## 2. Dark Matter from Our Probabilistic Gravity

Abundance of dark forces (created by dark matter and dark energy) is overwhelming. Their hypothetical particles (WIMP's) have never been detected. Newton wondered how "action at a distance" creates gravity. Particles of matter must be extending and interacting for these actions to occur. Newtonian gravity is equivalent to particles (we focus on nucleons, the heaviest particles of an atom) extending to interact and create forces like strong couplings ( $C_s$ s) at the points of nucleon interactions [1, 2]. The perceived abundance of dark matter suggests the need to account for 20 times more  $C_s$ s than there are nucleons in the luminous matter to generate them. Last year we presented one possibility on this subject [3]. The quantum attributes  $C_s$ s generate classical attributes of gravity, unifying the two.

## 3. How Do $C_s$ s Cause Gravity?

Quantitative description of the forces of  $C_s$ s as

black hole like forces needs some mathematical support to qualify them as such in a way that a non-physicist can grasp without having to study gravity related to black holes. We find that the tiny black hole-like points are small invisible black holes. Here is why. A black hole is formed when an aggregate of mass  $M$  is confined within a radius of  $R = 2MG/c^2$ , where,  $G$  is the gravitational constant and  $c$  is the speed of light [4]. The nucleons interact via their tiny quantum mouths; therefore we consider that the size of their mouths ( $R$ ) is one Planck length i.e.  $R = 10^{-35}$  m [1]. The aggregate of  $M$  (mass of nucleon =  $1.67 \times 10^{-27}$  kg) with  $G = (6.675 \times 10^{-11} \text{ m}^3/\text{kg}\cdot\text{s}^2)$  and  $c = (300 \times 10^6 \text{ (m/s)}^2)$  is  $2MG/c^2 = 2.48 \times 10^{-22}$  m. Since  $10^{-35}$  m is obviously far less (about a trillionth) than  $2.48 \times 10^{-22}$  m, the aggregate of mass  $M$  is confined in one Planck length, making each quantum mouth a "small black hole".

## 4. Our Riding on the Shoulders of the Giants

We derived the mystical (as if connected to consciousness) number ALPHA riding on the shoulders of many giants in doing so [5]. We relate consciousness to information. Our hope for the recognition of our derivation of ALPHA using Boltzmann's entropy equation on his tomb went sky high after reading the 2016, 18th printing of the book by Erwin Schrödinger [6], with a foreword by Roger Penrose, a world renowned mathematician with an interest in consciousness displayed during his presentation in Stockholm in 2011, and physicist and astrobiologist Paul Devies. Penrose talks about some small non-zero value of the cosmological constant [7]. Our simplistic approach in physics/0210040v3 gives the value of the cosmological constant as small and non-zero =  $1/(10^{60})^2 = 10^{-120}$ ? We saw exactly this value of the cosmological constant on papers on the internet searching citation. Our journal article [5] has that exact value, qualifying for that citation.

The following paragraph shows the views of two

(Francis Crick and James Watson) of the three 1962 Nobel Laureates for the discovery of DNA, who credited Schrödinger's book "*What is Life?*" for their discovery [8].

Crick said in *What Is Life?* : "It suggested biological problems could be thought about in physical terms—and thus it gave the impression that exciting things in this field were not far off." Watson, for his part said: "From the moment I read Schrödinger's "*What is Life?*" I became polarized towards finding out the secret of the gene."

Francis Crick's view that "organized complexity" of life "cannot arise by pure chance," and that "life, from this point of view, is an infinitely rare event" [9] is agreeable considering that the particle souls are knowledgeable as stated in Katha Upanishad 1.2.18 [10] and know something like ON and OFF (binary system of information) that we use to derive ALPHA in [5] analogous to the ancient Chinese Ying and Yang.

On the horizon, we see the possibility of Nature having a language.

## 5. Language of Nature

Our derivation of ALPHA as  $1/137.036$  assuming ten dimensions of the string theory makes us speculate that the ten dimensions could constitute a probability of a character, making the syllabus of the Nature's language contain  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 1,024$  characters for the language of Nature. The presence of many more characters in Nature's language than there are in human languages is consistent with the tremendous complexity of Nature. This speculation was orally presented in 2011 in Stockholm without the exact derivation of ALPHA which is documented in our book [6]. In a string theory class in 2015 we heard the lecturer informing the students that the string theory, so far, has not derived ALPHA, making it the future task of the students. We immediately saw a pale look on the faces of students. So we gave them our book: "Quantum Consciousness—The Road to Reality [11]." We do not rule out the

possibility that Nature's information is preserved in her own language for meditation to reveal a distant past. Multiple characters can transmit multiple messages, biological and gravitational simultaneously.

Truth reveals its true nature, no matter from which side one looks at it. So we look at our proposal from the point of the ancient views.

## 6. Ancient Views

We see that the constancy of the Eddington number in physics is potentially consistent with the ancient scripture of Bhagwat Gita, Chapter 2, verse 17, which states that the AnuAtma's (particle souls) are indestructible [10].

Ancient Hindu myth is that the earth is supported on the heads of snakes. Interpreting snakes as waves, the earth is supported on gravity waves which are what our theory can simply describe as cumulative effects of long range manifestations of short range nuclear forces originating from wavy particles and are immeasurable on individual basis [1].

Svetasvara Upanishad 5.9 states the size of the soul as one hundredth of a hundredth ( $10^{-4}$ ) of the size of the tip of the hair [9]. Considering the tip of hair as an atom (diameter  $10^{-10}$  m), ancient Indian arithmetic gives the size of AnuAtma (particle soul) =  $10^{-14}$ , close to the known size of a nucleon. No wonder why Nobel Laureate Erwin Schrödinger was so impressed by interconnected Hindu scriptures (Upanishad's, Vedas) looking at them from his own perceptive.

The common factor of AnuAtma (particle soul), JivAtma (life soul) and ParamAtma (omnipresent soul) is knowledgeable Atma (soul) which is the consciousness to all entities. Katha Upanishad 1.2.20 [9] states that the Supreme Absolute Truth can be found throughout the whole range of existence, with our interpretation as "including particle physics, biology and cosmology." While referring to each particle in the universe as a wave function, the Nobel Laureate Erwin Schrödinger said, "The unity and continuity of Vedanta are reflected in the unity and continuity of

wave mechanics. This is entirely consistent with the Vedanta concept of All in One.” [12]. The phrase “All in One” raises a question: If quantum physics is probabilistic, why gravity is not? Fortunately for us, we say, “Gravity is Probabilistic” [2].

All of these give credibility to ancient wisdom, supplemented by the great modern minds, when we are stuck with the evaluation of the invisible of consciousness unsuitable for mathematical analysis. The term “invisibility” applies to dark matter as well. Since dark matter is so named due to the fact that it has never been visualized.

## 7. Our Probabilistic Gravity in Natural Units

The uncertainty principle discovered by the Nobel Laureate Heisenberg says that no one can decide the position and velocity of a particle. Our probabilistic gravity in [2] implies that no one can predict which particle in the universe will interact with one or more of the other particles at a given time. We see the possibility that these two failures to make decisions are interconnected.

To explain the cause of the perceived abundance of the forces of darkness as a result of our probabilistic gravity, we stated that each nucleon must be interacting with multiple other nucleons simultaneously [3], based on Euler’s formula for the sum of reciprocal squares. What a coincidence that on April 5, 2016, we saw on the front page of Wall Street Journal, a picture of Hindu Lord Shiva dancing with his multiple arms with the description containing the words “forces of darkness” under the heading: CERN Seeks Secrets of the Universe Or Maybe Portals of Hell, reported by John Letzing.

## 8. Conclusions

We take the liberty to interpret second biggest physicist of the last century, Richard Feynman’s quote

saying that if you claim you understand quantum physics, you are wrong; with our interpretation that the truth of Nature is not mathematically understandable; quantum consciousness is that truth. If you could expand the brain to the size of the earth and search inside, you will not find consciousness. There is ONE TOE split in the categories of the visible (classical), and the invisible (quantum).

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