

The Emperor's Mind in a Nut Shell

Shantilal Goradia

Gravity Research Institute, Inc., ShantiNiketan I-E3, 983 David Walker Dr., Tavares, FL 32778, USA

Abstract: There have been multiple attempts to devise the TOE (Theory of Everything) at the expense of significant energy by the people involved. We explore new issues such as that of dark matter, neglected ancient views, new horizons and unresolved views of the giants to include invisible consciousness in search of the TOE, as is done for invisible gravity. Without the TOE, neither consciousness nor curvature of space-time has a fundamental basis.

Key words: Dark matter, consciousness, TOE, Boltzmann equation, gravity waves.

1. Introduction

The Hindu Trinity God of Brahma, Vishnu and Mahesh is analogous to Electron, Proton and Neutron of the Bohr model of an atom, with *Sakthi* as energy. The non-Hindu Nobel Laureate Neil Bohr, who discovered the structure of an atom, suggested: "Go to Upanishads if you have a question [1]". We follow the views of such giants for the sake of science; nothing else. We continue to supplement our work in "Quantum Consciousness—The Road to Reality [2]" which offers the background information. We split AnuAtma into Anu (body) and Atma (soul or mind) as needed. We add Vedic conjectures to Boltzmann Equation, Gravity and Consciousness, Uncertainty Principle, Higgs Field, Wave Particle Duality, Entanglement and String Theory. We add Biblical conjecture to the TOE (Theory of Everything).

We provide a logical basis to Newtonian Inverse Square to substantiate the effect of so called dark matter as proposed by us in Ref. [3]. We support the view of Dr. Smolin on Bio-Life, since we consider biology a part of the TOE. We present the dilemmas of modern physics and we describe our riding on the shoulders of the giants.

2. Vedic Conjecture to Boltzmann Equation

This is a conjecture to a quasi-mathematical equation with three variables. (1) Hindu's use a SHANKHA, a fish shell with a logarithmic curvature, implicitly complementing our derivation of the mystical number 137 using logarithm in Ref. [4]. (2) The sound of "OM" as pronounced in temples has resonances with a variable pitch (like our non-continuous quantum bits of OPEN and CLOSED states in Ref. [4] analogous to minute spins (up or down)). (3) Rig Veda, the oldest Hindu document, says: "...there was one that breathed on itself deep on the void, that which was heat and became desire and the germ of the spirit [5]." Considering heat analogous to entropy (thermodynamics) and spirit to soul (Atma), the combination of the above three conjectural items is analogous to the world famous Boltzmann equation, $S \approx \log W$ where S stands for the entropy, and W expresses the Up and Down spins of electrons from the beginning of time in Ref. [4], and "the germ of the spirit" for the spiritual waves. "Log" as an abbreviation of logarithm eliminates the need for a mathematical derivation, since spirit has no mathematical analog. Most mathematical formulae discovered by human genius are user friendly approximations. Our derivation of the reciprocal of the fine structure constant implies that it will take millions of years for the 9th digit value of the reciprocal of the fine structure constant to increase from a 2012 known

Corresponding author: Shantilal Goradia, president, research field: theoretical physics.

value of 137.035999174 to 137.035999175 except for cyclic fluctuations, if any, making the variation only a theoretical one and not a visible one in our life time. Nevertheless it is not an all-time constant per our derivation, whether or not its variation is connected to evolution. Our guess is that something in Nature has to change to some extent, visible or invisible, to bring about the evolution. Our derivation provides for increasing information as a function of the age of the universe.

The overall consistency of the derivation of 137 is progressively presented starting in September 11-15, 2006 at Montreal, Canada [6] followed by Refs. [4, 7, 8] and few others such as APS's DNP 2007: Session JH1. This important constant (137) controls minute spin and magnetic effects of electrons in atoms as complimented in the forwarding comment by an open minded professor and author, Dr. Floyd L. Williams, Dept. of Math, U of Mass, who attended the author's 2005 oral presentations in Corsica, France and Nagpur, India.

3. Vedic Conjecture to Gravity & Consciousness

Gravity waves are now confirmed by LIGO (the Laser Interferometer Gravitational-Wave Observatory). What about consciousness? Einstein's quote: "Religion without science is blind. Science without religion is lame [9]." helps to proceed. Vedic scripture of Kundalini describes consciousness like a "serpentine spirit" in two words as we interpret from Ref. [10] as connecting seven spots on the spine. The difference between serpentine spirit and snakes (serpentine waves) is spirit i.e. consciousness, implying consciousness propagates in waves. Einstein's view about the particles was that they know, we do not know how, as referenced by us in Ref. [4] which is consistent with Katha Upanishad 1.2.18 stating soul has knowledge (*vipascit*) on p. 9 of Ref. [8]. Whatever the particles know must be carried on to the waves they generate upon interactions.

Rig Veda (8.28.5) talks about seven CHAKRA's (wheels, circles or gears), in the spine, which are analogous to the sectional views of spherical distribution of spiritual waves with information from seven locations. Newton went from gravity to spirituality, and Einstein added cosmological constant to his formula in General Relativity. Aravindo, the Guru of consciousness of the last century in India, with numerous references to Rig Veda, explains that consciousness is a force [*Chit-Agni*] [11]. What a coincidence that our paper on gravity [12] leads us to write a book on quantum consciousness [8] presented in Stockholm in May 2011.

4. Vedic Conjecture to the Uncertainty Principle

If a force does not result from conscious attractions and repulsions, why does the uncertainty in Heisenberg's principle come about? It is because the particle must have an associated soul (Atma) making them behave independently like we all do. The joke, "Human race is smart, but everybody in it is a little bit crazy", "one cannot be certain how much crazy" may clarify that a large group of particles create a classical picture different from one created by an individual particle.

5. Vedic Conjecture to Higgs Field

The dark nucleon interactions in Ref. [3] must create point like dark black holes lasting as little as one Planck time. The details about their life span, location and frequency etc. are like the hidden variables to us. In terms of Higgs field, what is there in the field for it to give mass to? Per Bhagawata Gita [13], Chapter 13, there is a field (*ksetra*) which is in its entirety interconnected to ParamAtma. Higgs Field must be giving mass to the soul (Atma) of the particle. What a coincidence that Higgs Boson in the Higgs Field is named as God Particle by Nobel Laureate Leon Lederman. If the Higgs Field has God Particle, the Field is analogous to God Field or the

OmniPresent Field of ParamAtma.

6. Vedic Conjecture to Wave Particle Duality

Einstein's introduction of cosmological constant represents dark energy with an average density of 10^{-29} grams per cubic centimeter [14] present throughout the universe. The Vedic myth states of some energy (*Prana*) with every soul (*Atma*), analogous to the molecular binding energy which must have a source. The soul must be swirling the particle (*Anu*) and creating the duality. If the soul decides not to do so, it would remain a particle.

7. Biblical Conjecture to TOE

Colossians 1:15 brings forth the Invisible. The following Section 10 claims dark interactions giving rise to dark black holes and dark matter. Those "darks" are the multiple hands of the "Invisible" gluing gravity with particles, and particles with consciousness. Without the Invisible, the center piece of all religions, at the center, the others on the circumference or sides do not connect to each other, thus defying unification. We interpret that the songs of The Old Testament, PSALM 19:2,6, implies that the universe is self-aware and transmits information, making those songs consistent with the information in Section 2 of this paper, which is based on simple arithmetic like $2^{10} = 1$ kilobyte, consistent with Einstein's quote: "Subtle is the Lord, but malicious He is not."

8. Vedic Conjecture to Entanglement

A particle is an AnuAtma (particle soul). The description of the entanglement in terms of AnuAtma's split into two words Anu and Atma raises a question. Are the particles (Anu's) entangled or do they share one common soul? We speculate the later. Mundaka Upanishad 3.1.9 says that the soul can be understood with "perfect intelligence", implying the need for deeper research. The deeper research has now

revealed that the Nature is "Spooky". If one soul controls the spin of multiple, say 20 photons (like the multiple hands of Lord Shiva as orchestrated in Ref. [3]), the triumphant recent Chinese success to capture secret communications between two entangled photons 750 miles apart in Ref. [15] can be shared by 20 photons! This opens up a technological challenge.

Two far away twins get the same idea simultaneously, as if they are branches of one common soul (*Atma*). Mundaka Upanishad (3.1.2) as well as the Swetasvara Upanishad (4.7), compares the soul and the Supersoul to two friendly birds as sitting on the same tree, as interpreted by us from p. 95 of Ref. [13]. This bio-entanglement must be based on spiritual experience then. Future may reveal that physical entanglement may be the root cause of bio-entanglement in twins.

9. Vedic Conjecture to String Theory

Svetasvara Upanishad 5.9 states the size of AnuAtma (Particle Soul) as one hundredth of a hundredth (10^{-4}) of the size of tip of the hair. Considering the tip of hair as an atom ($D = 10^{-10}$ m), the size of the individual soul is 10^{-14} , close to the size of a nucleon. The famous philosopher Dr. S. Radhakrishnan adds a note to this idea on p. 741: "The individual soul is potentially infinite [16]". Per string theory, a nucleon extends to the universe. It also does so per [17] where we fix Newton's law to include the strong coupling. Dr. Radhakrishnan adds on p. 941 of the same book: "...Upanishad's are based not upon theological reasoning, but on experience of spiritual life." We agree.

10. Dark Matter & Newtonian Inverse Square Logic

A black hole is formed when an aggregate of mass M is confined within a radius of

$$R = 2MG/c^2 \quad (1)$$

where, G is the gravitational constant and c is the speed of light [18]. The nucleons interact via their tiny

quantum mouths; therefore we consider that the size of their mouths (R) is one Planck length i.e. $R = 10^{-35}$ meter [12]. The aggregate of M (mass of nucleon = 1.67×10^{-27} kg) with $G = 6.675 \times 10^{-11} \text{ m}^3 \cdot \text{kg}^{-1} \cdot \text{s}^{-2}$ and $c = 300 \times 10^6 \text{ (m/s)}^2$, is $2MG/c^2 = 2.48 \times 10^{-22} \text{ m}$. Since 10^{-35} m is obviously far less (about a trillionth) than $2.48 \times 10^{-22} \text{ m}$, the aggregate of mass M is confined in one Planck length, making each quantum mouth an invisible (dark) “small black hole”, too small with too short a life to be perceived on an individual basis. We extended this implicit unification to explain the cause of dark matter in Ref. [3]. Here, we further extend it to explain the cause of the well-established Newtonian Inverse Square as follows.

We cannot rule out the possibility and we implicitly predict that the gravity waves from the black holes propagate spherically like the light from a light-bulb which diminishes its intensity as a square of the distance, thus removing some past speculations of photons as mediating particles of gravity. Such a possibility of symmetry, barring other effects such as covariant variations provides a logical basis for the Newtonian Inverse Square Logic for which Newton had no derivation. It must be the cumulative effect of the increased generation of unperceivable tiny instantaneous dark black holes in a highly humid atmosphere over the carbanions making a dent in curvature of space-time, creating an otherwise unknown fundamental cause for the dangerous storms for which we have a moral obligation to explore. This raises questions confronting science as to the cause of (1) increased generation of black holes in a highly humid environment and (2) some tornadoes coincident with the Solar flares.

11. Bio-Life per Smolin

The pictorial views of a sphere of gravity waves from dark black holes in Ref. [3] are like expanding universes or a multiverse. According to Smolin “A universe best able to create increasing

complexity—that is, biological life—is most likely to create new universe-generating black holes” [19]. The particles interacting in the dark must be born again and again with their souls (Atma's) acquiring mass in the Higgs Field after generating black holes to maintain the universal continuity of gravity. Einstein's friend and Nobel Laureate Dr. Rabindranath Tagore maintained that Nature knows no waste; Nature recycles everything. The soul of a particle (Atma) must be recycling the particle using Higgs field, making particle generate its own universe of spiritual waves when it interacts, giving reality to “universe generating black holes” in Smolin's quote.

12. Riding on the Shoulders of the Giants

Nobel Laureate Pauli once said that if the Lord allowed him to ask anything he wanted, his first question would be “Why 1/137? [20]”. Nobel Laureate Schrodinger, envisioned the truth in Boltzmann's entropy equation as early as 1946. Big Bang theorist Gamow envisioned “137” linked to cosmology [21], we link it to the natural logarithm of the age of the universe in Planck times (10^{60}) i.e. cosmology; “natural” since that is how the Nature is. Relativistic approaches to derive the fine structure constant are in vain. We combine the smallest, Planck time, with the largest of time. The use of natural logarithm has a special significance to the investigation of consciousness, as proclaimed by an international organization founded by guru Maharishi Mahesh Yogi [22].

13. Dilemmas of Physics

Einstein's interpretation of the Schrodinger Cat (JivAtma) dilemma was that of an ensemble [23]. “Einstein's reference to the ensemble interpretation remained in general sketchy [24].” Newton published more articles on sketchy philosophy than on physics. Sketchy ideas result from scientist's preoccupations with the problems. Currant dilemma, “the curvature of space-time creates gravity, not the particles in the

solar system” raises a question as to what creates the former. Our answer is the non-constant distribution of dark particles [3] acting like multiple invisible hands of the Lord Shiva. Instead of big books to link science with philosophy, we write short papers and appreciate the compliments.

14. Conclusions

The theory of everything should include consciousness even if it violates the assumption that the fundamental aspects depend on man-made mathematics alone, with due consideration to key points in philosophy, while riding on the shoulders of the giants. We are not putting one (philosophy) above the other (mathematics). The gravity waves must include the spiritual expression that the ancients described as OM.

References

- [1] Admin1. 2015, May 12. “How Scientists Like Niels Bohr, Schrodinger, Nikola Tesla and Albert Einstein Found the True Meaning of Physics in Vedas. NEWSGRAM.” Retrieved August 22, 2016, from <http://www.newsgram.com/how-scientists-like-niels-bohr-schrodinger-nikola-tesla-and-albert-einstein-found-the-true-meaning-of-physics-in-vedas/>.
- [2] Goradia, S. 2016. “Quantum Consciousness—The Road to Reality.” *Journal of Life Sciences* 10: 1-4.
- [3] Goradia, S. 2015. “Dark Matter from Our Probabilistic Gravity.” *Journal of Physical Science and Application* 5 (5): 373-6.
- [4] Goradia, S. 2015. “Decoding the Information of Life.” *Journal of Physical Science and Application* 5 (3): 191-5.
- [5] Leeming, D. 2010. *Creation Myths of the Encyclopedia*, 2nd ed. ABC-CLIO, Santa Barbara, CA: 3.
- [6] Goradia, S. 2009. In Proc. “Spirituality, World Religions after September 11” PRAEGER, Westport, USA (4): 147-52.
- [7] Goradia, S. 2009. *Proceedings of the International Conference on Mathematics and Computer Science*, Department of Mathematics, Loyola College, Chennai, India (2): 3-6.
- [8] Goradia S. 2011. “Quantum Consciousness—The Road to Reality.” Bloomington, IN: Author House.
- [9] Davies, P. 1983. *God and the New Physics*. New York : Simon & Schuster.
- [10] Myss, C. 1996. *Anatomy of Spirit: The Seven Stages of Power and Healing*. New York: Three Rivers Press.
- [11] Satprem. 1968. *Sri Aravindo or the Adventure of Consciousness*. Pondicherry: Aravindo Ashram Press.
- [12] Goradia, S. 2006. “Why Is Gravity So Weak?” *Journal of Nuclear and Radiation Physics* 1: 107-7.
- [13] Prabhupada, S. 1989. *Bhagavad-Gita, as It Is*. Los Angeles: The Bhaktivedanta Book Trust.
- [14] Krauss, L. 2012. *A Universe from Nothing: Why There Is Something Rather Than Nothing*. New York: ATRIA Paperback, a Division of Simon & Schuster, Inc.
- [15] Smart, A. 2017. “Quantum Entanglement Reaches New Heights.” *Physics Today* 70 (8): 14.
- [16] Radhakrishnan, S. 1953. *The Principal Upanishads*. Edited with introduction, text, translation and notes by Radhakrishnan. New York: Harper and Brothers Publishers.
- [17] Goradia, S. 2012. “Newtonian Gravity in Natural Units.” *Journal of Physical Science and Applications* 2 (7): 265-8.
- [18] Harwit, M. 1998. *Astrophysical Concepts*. New York: Springer-Verlag Inc.
- [19] Kurzweil, R. 2005. *Singularity Is Near*. New York: Viking Press.
- [20] Miller, A. 2009. *Deciphering the Cosmic Number—The Strange Friendship of Wolfgang Pauli and Carl Jung*. New York: W. W. Norton & Company, Inc.
- [21] Gamow, G. 1961. “Electricity, Gravity and Cosmology.” *Phys. Rev. Lett.* 19: 759-61.
- [22] Lowan, A., and Bochner, S. 2007. *E (mathematics)*. In *McGraw-Hill Encyclopedia of Science & Technology* 5 (kCot-Eat), New York: McGraw Hill.
- [23] Schipp, P. 2000. *Einstein: Philosopher-Scientist*. Open Court Publishing Company, Peru, Illinois.
- [24] Home, D. 1997. *Conceptual Foundations of Quantum Physics: An Overview from Modern Perspectives*. New York: Springer.