

Summary of my research

Savyasanchi-Ghose

Table of Contents:-

1. Quantum physics and quantum metaphysics:-

- a) Schrodinger's cat as an emergent phenomenon
- b) Necessity of observer's participation in a quantum system
- c) Deterministic production of the entangled states (*linkage of observer's cognition to the result*)
- d) Observer dependent dynamics (ODD) theory

2. Theory on consciousness

- a) Quantum well theory of consciousness in the human energy structure
 - a) Existence of 'mental realms' as an experience of multiverse.
- b) Explanations of Akashik records through this model

3. Music cognition and linkage with the consciousness:-

- a) Realization of music of the universe as *Sabda-brahm* and *Nada-brahm*.
- b) Approach towards the working of binaural beats, experiments in acoustics
- c) Hypothesis on powers of different *ragas* including '*Raga Deepak*'
- d) Scope of experiments to investigate the ancient technology of weapons.

4. Thermodynamics and the ODD, hypothesis on 'entropy':-

- a) Entropy as a scalar quantum field
 - a) Explanation of non-spontaneous entropy change.
 - b) Impossibility of the time travel.
 - c) Criticism of physical multiverse.

1. Schrodinger's cat as an emergent phenomenon:-

Schrödinger's cat is a thought **experiment** about quantum physics. Erwin Schrödinger suggested it in 1935,¹ to show how absurd the quantum mechanics is when taken to the macroscopic level, it involves a cat in which is both alive and dead at the same time when no observations is being made, which seems impossible in practical, but nowadays this experiment is being realized in experiments, I have designed an experiment in which the final result to be observed by the observer has the properties like Schrodinger's cat, this experiment has some conditions to be fulfilled, like entanglements between system and the subsystem, After a series of operation, we get two results in last with equal probabilities, it seems if Schrodinger's cat has been mimicked through this experiment, So I conclude that this thought experiment is not just a thought experiment, instead, it is an emergent property of a quantum system designed in a particular way, it emerges in final steps, Recently some researchers at the Max Planck society, Germany, have realized this experiment in their experiment via optical instruments.⁽²⁾

2. Necessity of the observer's participation in any quantum system:-

While designing an arrangement for a self-operating quantum system, without any observer, I noticed that there isn't any system which could be self-operated, There has to be an observer for the continuity of the information field, otherwise there will be no measurement, the measurement is the process which is said to be as an extraction of the information from the system by the observer, so there must be an observer or AI machine. De coherence would be lost if there is no observer and hence no measurement, this principle is of main importance in the quantum metaphysics, where we can also consider PAP(participatory anthropic principle) of John Wheeler which is an extension of the strong anthropic principle⁽³⁾ The anthropic principle is a philosophical consideration that observations of the universe must be compatible with the conscious and sapient life that observes it. In my experimental setup, there has to be an observer, at least mentally present (In the form of his/her intent, awareness towards the system and the process) and observing it, Following papers ⁽⁴⁾ and ⁽⁵⁾ represents and mimics the same fact in the form of an experiment.

3. Deterministic production of the entangled state and quantitative effect of observer's observation:-

This intuition came to me while thinking about the chance of getting a desired result and getting that result, during the distribution of exam copy in a practical examination. When there is a production of deterministic entangled state in a quantum experiment, orthogonality between different eigenstates is restricted and results are not so random, and they depend on the first choice, the observer makes. During such experiments, the information entropy of the system decreases and that of observer increases, which I have shown graphically in my paper, ⁽⁶⁾ further, when a

¹ From Wikipedia

measurement is made in such a system, there is a measurement by ‘virtual observer’ and a ‘Schrodinger’s cat’ like phenomenon is also produced during the instant of measurement, here it is again confirmed that Schrodinger’s cat is a self-emergent phenomenon. So, here a new class of observer ‘*Virtual observer*’ is born.

4. Observer dependent dynamics (ODD)

Taking the fact in account that presence/ inclusion of an observer of any conscious entity in a quantum system is necessary for the measurement as well as for the DE coherence, we propose a theory called ODD (Observer dependent dynamics) through which we will investigate different phenomenon taking account of a conscious entity in the system, the dynamics of the whole system, then would be decided by the information extracted by the conscious entity, conscious entity may or may not physically present in the system, we here didn’t support the Wigner’s friend interpretation, which says that reality is different for different persons, this may be true for big/macroscopic systems where decoherence is lost and measurement yields wrong results similar to Wigner’s friend. Since quantum physics is applicable for microscopic objects so this theory is, since consciousness plays a major role in quantum measurements, our theory is based upon relative change of the information entropy in the observer system and quantum system in entanglements.

Theory on consciousness

1. Nature of consciousness in the human energy structure:-

I hypothesized that the nature of the consciousness in the human energy structure is a kind of array of quantum energy states just like they are in a ‘Quantum well’ having different patterns corresponding to the frequency of the vibrations of each layer, the multidimensional experience and ascension could be explained by this model, revising this model, I made some corrections, I proposed that each level of this consciousness field corresponds to different level of consciousness, and ascension is the process of transcending into these higher quantum states, this description of consciousness in human energy structure is different from the philosophical interpretation of the consciousness, where it is understand as an ability to make decisions, or in some literature, ‘having sentiments’ or having ‘intelligence’ see, (<https://www.youtube.com/watch?v=ctNHQUhZs2o>) , the thoughts carries negative energy which produces ripples in the consciousness field, so, this description follows a long way to the explanation of *Akashik records*, *ascension*, and effectiveness of *mantras* etc.

b.) Experience of multiverse/ parallel realities due to the existence of the mental realms.

This is a hypothesis which is followed by the above model, in this hypothesis, I have shown that the experience of the multiverse/parallel universe/ *Déjà vu*² (*The term **déjà vu** is French and means, literally, "already seen."* Those who have experienced the feeling describe it as an

² <https://science.howstuffworks.com/science-vs-myth/extrasensory-perceptions/question657.htm>

overwhelming sense of familiarity with something that shouldn't be familiar at all.) It is a belief in the mainstream that the experience of the parallel realities is due to the presence of the similar copies of ours in other physical multiverses, we somehow aligned with the information from the another universe, it seems fascinating, but it is absurd, first, one needs to know that what we experience is due to our consciousness, so, the roots of this phenomenon too, lies in understanding the nature of the consciousness, so, I proposed that the **'Shifting of the feedback loop of the incoming signals to the brain to different quantum levels, and thus perturbation of the energy levels of these quantum states is the cause ,why we experience the phenomenon like Déjà vu.'**

Music cognition and its linkage with consciousness

1. Realization of music of the universe as *Sabda-brahm* and *Nada-brahm*.:-

The vaidika scriptures on the origin of the universe mention that the absolute existence of the *Brahm* is expressed and realized in the sublime vibrations of *Sabda* and *Nada* The *Anahat swar* (the evolutionary impulse of cosmic sound) induced by these vibrations is said to be the generator of perpetual energy in the universe. *Sabda brahm*– the omnipresent eternal origin of sound and *Nada brahm* – the eternal element of the self-existent cosmic impulse of music, immanent in the subliminal as well as the gross realms of existence and their ever-evolving expressions in infinity are referred in the *shastrik* literature as *Sabda-nada Brahm* .⁽⁷⁾ (Acharya, 2003)

2. Approach towards the working of binaural beats, experiments in acoustics:-

I performed some experiments to investigate the acoustic effects of different sounds and *mantras* . In an experiment, I made a device with the help of a balloon membrane and a paper cylinder (of short length) and pasted a small piece of mirror over its surface, and placed the whole apparatus over the vibrating part of a speaker, I directed a laser beam towards the mirror and recorded the patterns that I got on the screen, after analyzing those patterns, I found that Near around 90, 110, and 130 Hz, a elliptical pattern is obtained on the screen, which was exactly the same pattern as it was obtained when 'AUM' sound was pronounced verbally through the device, instead of speaker, In a study (Ian A Cook, 2008) , it was demonstrated that the frequencies mentioned above, have a positive and enhanced effect on the human mind and an increased brain activity has been detected at these levels. This level of frequency also corresponds to 'Gamma' frequency of the brain, which is considered to be the most active state of mind when it is most active, so my investigation proved that chanting the 'AUM' makes the brain more alert and active, also I proved the same about 'Gayatri mantra'

3. Investigation of potentials of different 'Ragas' of Classical music.

I have also made the investigations on different Indian ragas and their potential, in two ways, (i) using a software and etymology of the words and rhythms (ii) Based on hypothesis

I analyzed, *Raag Deepak, darbari, bhairav* in the above mentioned ways. I found that the syllables in these *ragas* have been composed in such a way as to affect the targeted part in the body, like ear, nasal cavity, mouth, abdomen, stomach, I found this correlation by comparing the effects of sound (vibration) of different syllables used in ‘*Gayatri mantra*’ *Bhairav raag* was found to have an effect near the ear, nose and mouth, thus relaxes the nervous system and relaxes the mind, it is used for meditation too, a study conducted in IIT Kanpur reveals the same fact, (Ashish Gupta, 2018)

Raga Deepak is said to have potential to light up an ‘oil lamp’ when sung by a trained musician, Tansen used to sing it and it is said that the temperature of the court would reach to its heights. I related the psychic ability (human bio- electromagnetic field) with the subtle effects of sound, responsible for the power of ‘*Raga Deepak*’, yet much more has to be investigated in this context.

Along with these investigations, I also proposed the mechanism of working of Mantras, mantras have a well-defined sonic pattern generated by the rhythmic pronunciation of the mantra. The subtle or ‘unstruck’ sound of these mantras affect the field of consciousness, the EM energy of the body is raised by the chanting of these mantras is used up in ascension through the levels of consciousness, and thus mantras work.

Thermodynamics and the ODD

Using the ODD (observer dependent dynamics) in the thermodynamics framework is the approach to validate the observer effect in the systems other than quantum systems, We here, account for the information entropy of both the observer and the system (in which process is going on) and the thermodynamic entropy, I have shown that the Von-Neumann’s argument related to an operation on quantum gas can give different results in the presence of a conscious entity in the system, the entanglement entropy of the observer and system interaction is also counted and it follows that any such system can’t be reversible, since an observer should be there to make the decoherence happen and hence entropy (Taking account of Von-Neumann entropy, information and EE) change would not be zero (including all), thus, this also imposed a criteria for the spontaneity of such systems in the terms of the feedback given to the observer, and hence ODD gives good results here too.

This paper of mine was recommended by a researcher on academia.edu, he wrote:-

“All existing scientific explanations try to explain how we 'see' the phenomena of quantum mechanics in our brain. This article is no different, but it is unique in its approach of taking into account consciousness energy (thought), gaining the same amount that the VNE loses thus maintaining entropy energy. There is no explanation in the article of how that energy is measured, but it is an exciting approach.”

Hypothesis on the nature of thermodynamic (darmos, 2014)entropy

I proposed that the thermodynamic entropy isn't the measure of disorder or randomness neither it is the logarithm of the number of different microstates in a most probable configuration of the system, these definition would suite best in the description of the information entropy, since randomness or disorder is the increment of the information entropy of the system, I hypothesized that the thermodynamic entropy is like a scalar quantum field, which surrounds every object and the ripples in it are a symbol of the 'entropy change', it is a kind of spread, this linkage of entropy to the energy and its recognition as a field (Note: it is different from standard fields like EM field etc.) helped to understand the various phenomenon such as the 'impossibility of the time travel', 'why physical multiverse can't exist'(Law of energy conservation would be failed, and mass-continuity would be needed) and 'why there can't be such a heat transfer which denies the 2nd law of thermodynamics?(would need of speed near speed of light to achieve this)' Also it explains the entropic expansion of the universe which gets matched with that proposed by (darmos, 2014) as : "Yet this analogy helps me to link the expansion of the universe to entropy increase, I asked"

This hypothesis though requires mathematical background to be formed, yet it provides wonderful explanation of the phenomenon described above.

References:-

- Acharya, P. S. (2003). *ETERNITY OF SOUND AND THE SCIENCE OF MANTRAS* (Vol. 1). Haridwar, India: Yugantar Chetna Press. Retrieved from https://api.ning.com/files/EDkE0AxTXZVL8K9pPEWPgU-LFrwixJol8s6BlrEz-3AUCFSjKACPyLitXXLtVx7*yxYVax4LAYZXJh0IxgyAfPXGfRSFfHC2/AcharyaPt.ShriramSharmaEternityofSoundandtheScienceofMantras.pdf
- Ashish Gupta, B. B. (2018, October 19). Short-term enhancement of cognitive functions and music: A three-channel model. *Nature*(8). Retrieved from <https://www.nature.com/articles/s41598-018-33618-1>
- Bastian hacker, s. w. (2019). Deterministic creation of entangled atom–light Schrödinger-cat states. *nature photonics*(13), 110-115. doi:<https://doi.org/10.1038/s41566-018-0339-5>
- darmos, S. (2014). *Quantum gravity and the role of consciousness in physics*. Hong-Kong: Quantum consciousness research limited. Retrieved 2016
- Ghose, S. (n.d.). Production of deterministic entangled states: Relation between consciousness of observer and the entanglement entropy of the system. Retrieved from https://www.academia.edu/38615037/Production_of_deterministic_entangled_states_Relation_between_consciousness_of_observer_and_the_entanglement_entropy_of_the_system
- Ian A Cook, S. K. (2008, March). Ancient Architectural Acoustic Resonance Patterns and Regional Brain Activity. *Time and mind*, 1, 95-104. doi:10.2752/175169608783489099

- Maroney, O. (Fall 2009 edition, September 15). Information Processing and Thermodynamic Entropy. *The Stanford Encyclopedia of Philosophy*. Retrieved from <https://plato.stanford.edu/archives/fall2009/entries/information-entropy/>
- Massimiliano Proietti, A. P. (2019, February 13). Experimental rejection of observer-independence in the quantum world. *arxiv*, 10. Retrieved from <https://arxiv.org/pdf/1902.05080.pdf>
- Narasimhan, A. C. (2019, march 28). The Nature of the Heisenberg-von Neumann Cut: Enhanced Orthodox Interpretation of Quantum Mechanics. 6. doi:<https://doi.org/10.1007/s41470-019-00048-x>
- Nesteruk, A. V. (2013). A "Participatory Universe" of J. A. Wheeler as an Intentional Correlate of Embodied Subjects and an Example of Purposiveness in physics. *Journal of Siberian Federal University.*, 6(3), 415-437. Retrieved from <https://arxiv.org/ftp/arxiv/papers/1304/1304.2277.pdf>
- Prunkl, C. E. (2019, May 8). On the Equivalence of von Neumann and. 3-22. Retrieved from <https://arxiv.org/pdf/1810.09585.pdf>
- verma, H. (2006). *Quantum physics* (Reprint ed., Vol. 1). Ghaziabad, India: Surya publications.
- Veronika Baumann, Č. B. (2019, January 31). Wigner's friend as a rational agent. Retrieved from <https://arxiv.org/abs/1901.11274>

