

# Project on the Comparative Study of The Works of Dr. A.K. Mukhopadhyay and Thomas Campbell from the per- spectives of Biology and Physics

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# Introduction

This project is aimed at doing a comparative study of the works of two pioneers in the field of Consciousness research. At present almost all the subjects of science and humanities are questioning the nature of consciousness because of the inability of the past scientific theories to explain the relation between the observer and the observed. On one hand quantum physics stops making sense upon finding that the observer collapses the wave function in a double-slit experiment, while on the other hand a philosopher comes to a stage where he starts questioning the existence of this whole universe. A psychologist is forced to question at one stage that on which system are the laws of psychology applicable in the end. A biologist is puzzled by the questions like "What is Life?.....Why does evolution take place?.....How come does the brain assist in the formation of a memory, intelligence and so many experiences with such an impeccable consistency?....." Then a spiritualist wants to know Why he is here on this planet? What is the purpose of this life? Law makers are bewildered by the quest of Morality.....Is it fixed or is it ever changing.....What is the basis of morality? And we can find many such unsolved mysteries bewildering the minds of present intelligentsia.

At present more and more scientists are recognizing the importance of consciousness studies not just because of its ability to explain everything, but also because of its vast applicability in the future. In this project, I have done a comparative study of the works of two scientists who have not only recognized the importance of consciousness, but have also created a science for the study of consciousness in their own ways that has caught the attention of many truth seekers. I have compared Dr. A. K. Mukhopadhyay's book , *The Millennium Bridge* with that of Thomas Campbell's *My Big TOE*(Theory of Everything) from the perspectives of biology and physics.

## About the Authors

### Dr. A. K. Mukhopadhyay

Dr. A.K. Mukhopadhyay is a Professor and Head of the Department of Laboratory Medicine at the premier medical institute of India, All India Institute of Medical Sciences (AIIMS). He has been doing research on Consciousness since his post-graduation days. His goal is to make a science *for* Consciousness that can encompass the whole scenario of the present and future science and reassemble the missing links that are hindering the progress of present science. He believes in the synthesis of objectivity of science with the subjectivity of philosophy and mysticism. He has a unique sense of conveying his ideas explicitly through poetry. His uniqueness lies in his deep understanding of Nature and blending every branch of study towards an integral science. He considers the brain to be the most important organ that holds the key towards the exploration of the Akhanda paradigm and believes that until and unless one completely opens up the brain, it would be difficult to comprehend the true nature of consciousness. He is

a bold and courageous scientist who has tremendous faith in his ideas. It is phenomenal to observe that when most of the scientists were recognizing the importance of consciousness, he had been ready with his science for consciousness. He has read some of the great mystics like Sri Aurobindo and Swami Vivekananda and has deftly blended those works with scientific ideas. His approach is as much scientific as it is philosophical and mystical. His studies on supracortical consciousness are truly remarkable. Dr. Mukhopadhyay has a profound understanding of the game of various elements of elementary phenomenology which is where the uniqueness of his works begins. He is in support of a science that seeks to develop the brain to its full potential for the complete understanding of the universe and prepare a ground for the development of a new species, *Homo spiritualis*, that could bring 'heaven' on earth.

## Thomas Campbell

Thomas Campbell is a nuclear physicist who works as a systems consultant to NASA. He bases his claims entirely on his own experiences through meditation. He was inspired by physicists like Einstein and David Bohm right from his early childhood. He became interested in the science of consciousness upon accidentally reading Robert Monroe's book *Journeys out of The Body*. He believed in the validity of classical science till the time he encountered Robert Monroe's book. Though initially he was quite sceptical about it, but after the confirmation of the validity of the *Out of Body Experiences* by Monroe himself, he decided to investigate the science of consciousness in as much depth as possible. Ever since then he started off with his investigative study until he came up with his own Theory of Everything (TOE). Since he hails from a physics background, his approach is somewhat technical. As a scientist, he is at pains to say that his TOE is a model, not a fixed set of beliefs. He pretty much despises beliefs, whether materialist or religious, because they put bounds on our experi-

ence. His uniqueness lies in his revolutionary model of digital consciousness.

# Methodologies of the Authors

Dr. AK Mukhopadhyay

He does not use any special methods to study consciousness. He is simply natural, devoted and confident which probably helps him in penetrating into the Truth. He had an ingrained belief in his childhood which said that he was born for giving something big to the scientific world, which is also one of the reasons behind his genius mind. He has said that he has undergone some painful transformation that has given him more maturity and insights. He has extensively studied Sri Aurobindo's voluminous works while doing his graduation from AIIMS. The main aspect of his studies is that he learned a lot from his life experiences because of his insightful nature. He gets great ideas through flashes of intuition which he claims to have come through surrender. He also says that he is a "living dead body" i.e. he passes through a number of near-death experiences which help him gain more depth and understanding. He is quite fearless in his approach and uses startling models to explain his claims.

## **Thomas Campbell**

He uses meditation as his main tool for studying consciousness. He believes that meditation gives him one-pointedness that helps him think more clearly. Moreover, he uses Out of Body Experiences to probe into the nature of NPMR (Non Physical Matter Reality). As a student, he was told that meditation would improve his concentration. He made the effort in a spirit of open-minded scientific enquiry. It worked, and as a true scientist, he accepted its utility even though he had as yet no theoretical basis for understanding why. And while some spiritual teachers think that 'point consciousness' is enough, for Tom Campbell it was only the beginning. And since he is technocrat, he uses more technical metaphors to explain his TOE (Theory of Everything).

## Similarities between the Authors

- Both of them believe that consciousness is the ultimate reality. Though there are slight differences in their views on unconditional consciousness, but still many of their ideas match on this point.
- Both use non-traditional ways to probe into the science of consciousness. None of them relies solely on logic and linear approach.
- Both of them have acknowledged their gurus and have written their own preface.
- Both have agreed that sensory deprivation is necessary for doing consciousness studies.

## **Basic Differences between Authors**

Dr. AK Mukhopadhyay	Thomas Campbell
1.He approaches consciousness through Biology, since he believes that quantum physics almost loses after quantum discontinuity & quantum void.	1.He approaches consciousness through Physics and hence has proposed a digital model of consciousness.
2.He has explained the present and future science through the model of five nests/planes and has quite clearly showed the entrance, exit and processes inside each nest.	2.He has not shown such model. Rather he is direct but has not mentioned his path that depicts how he views the domain of present and future science. For him, there are mainly three distinctions viz. PMR, NPMR, and AUM.
3.He considers that complete opening of the brain is an important step that is needed for developing a complete understanding of consciousness.	3.He considers it as an important step but does not emphasize much upon methodology of opening up the brain.

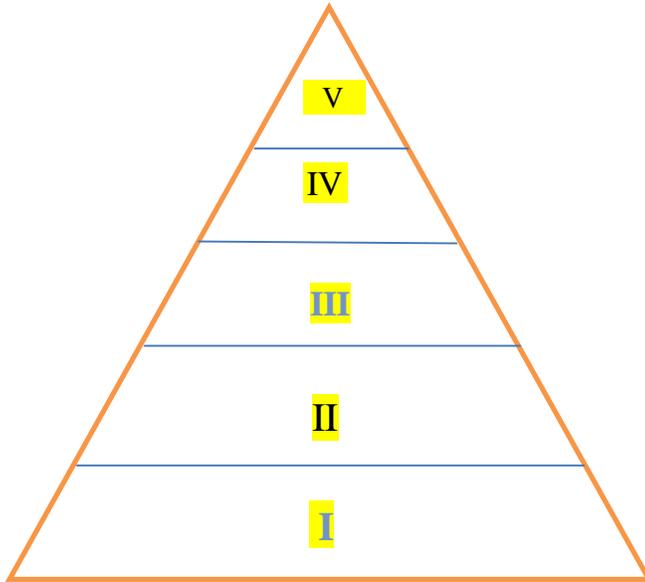
<p>4.He has used the terms like Supracortical consciousness and biological integration centre to explain the science of transformation.</p>	<p>4.He does not use such terms, neither does he try to explain the science of transformation.</p>
<p>5.He has explained the five elements of elementary phenomenology viz. Life, Death, Love, Sex and Ego.</p>	<p>5.Since his approaches are from physics point of view,he is not consistent about the use of these terms. Rather he uses some other terms along with them with some inconsistency. He has explained this phenomenology through classical and quantum terminology.</p>
<p>6. He is comprehensible from the standpoints of both anthropomorphism and non-anthropomorphism. He accepts the totality of different viewpoints.</p>	<p>6. He abhors anthropomorphism to preserve his scientific credential. He brings computer analogy to explain his model.</p>
<p>7. He is direct and precise in his work. One needs a basic background to comprehend to him completely.</p>	<p>7. He builds up his theory throughout step by step. Not much background is needed to comprehend him.</p>

**An Introduction to the Paradigms  
proposed by Both the Sci-  
entists**

## Dr. AK Mukhopadhyay's Model for Understanding Consciousness

Dr. Mukhopadhyay starts with finding out the missing links of the present science. He believes in the existence of five nests in the entire spectrum of nature. Here consciousness is at base of the entire mechanics, and hence constitutes the last plane i.e. Plane V. Then comes Plane IV which is the plane of Mother Nature. This is followed by Plane III that comprises of Elementary Phenomena, i.e. Life, Death, Love, Sex and Ego. This is also the plane for Self, mind and information. The next plane is the Plane II where Quantum Mechanics operates. And at the most gross level is Plane I that comprises of Classical Mechanics. This is where Newtonian Mechanics is applicable.

## MECHANICS WITHIN FIVE NESTS IN THE NATURE



Plane V-Consciousness-Mechanics of Consciousness

Plane IV-Mother Nature-Mechanics of Mother Nature

Plane III-Elementary Phenomenology-Mechanics of Elementary Phenomenology

Plane II-Quantum nest-Quantum Mechanics

Plane I-Classical nest-Classical Mechanics

## NEST V: CONSCIOUSNESS

Currency : Life

- Here, consciousness is the ground without any background and is independent of all foregrounds. Consciousness is considered to be the master weaver of the whole Mechanics as well as the participator in the game i.e. it is the teacher as well as the student.
- Consciousness is non-answerable to any proprietor. It has the final authority, and hence is regarded as Supreme.
- Consciousness may remain in the brain as Brain-bound consciousness or it may manifest in particulate and individualized form as 'self', the customized organisational unit for the self-organizing system. But , consciousness can remain independent of both, Self and the system (brain).
- Self is proposed to be a connecting-link between system-bound consciousness and system-independent consciousness.

- Origin of Self :- 1. It is an emergent property of brain-bound consciousness. 2. It is an informed individualized unit of unconditional consciousness

## PLANE IV: MOTHER NATURE

Currency : Causality

- Mother Nature is the executive-front and subtle energy pole of consciousness. It is characterized by unconditional spontaneity and timelessness.
- It is Mother Nature which makes noumenal consciousness phenomenal. She is said to be the controller of evolutionary pole of an organism.
- In Her presence, Zero is revealed as Infinity. It is only when a seeker has surrendered himself completely at this plane does one attain to Infinitude.
- Supreme Consummation happens only following transformation of one's nature into Mother Nature. The Self is then transformed to Being, the Unconditional Consciousness.
- Surrender is the main key that guides entrance into this plane from the plane of Elementary Phenomenology. The depth of surrender determines the course of happenings here. In this plane, there is scrutinization of genes for a decision on the purpose. Following a decision on the purpose one may go back to plane III

with outside-in and inside-out for further phenomenological display and creative emergence. One may continue in deeper plane for transformation of one's nature into Mother Nature which can meet its end in the deepest plane of Mother through a grand preparation for Supreme Consummation.

- When Mother Nature jointly works with Consciousness, it brings a new life for a new purpose. It offers a meaning in appropriate context. She is said to be the Life-Force in living state.
- It is responsible for keeping a system thermodynamically and informationally open. In fact, this is the plane from which information originates.
- Mother Nature is said to express its feelings through four Fundamental Forces viz. EM force, Strong force, Weak Force and Gravity.
- Mother Nature cannot be reached through any mathematical equation known to scientists. The only equation, which initiates a response from her is the equation of surrender. The surrender initiates an intrinsic communication in the Consciousness-Mother Nature axis. Following a total unconditional and conscious surrender the response that follows is an in-

side-out phenomenon. This is the necessary and sufficient condition for creative emergence.

## **Changes in the Brain in Mother's Plane**

Significant changes start taking place when the brain encounters the Mother's plane. These are both physical as well as attitudinal. Some of these are listed below:

- Physical Changes
  - At the crown of the head, over the highest convexity of cerebral hemispheres one feels the presence of the 'brain' of a brain, which is a collection of sensitive neurons.
  - Upon integration of the brain in this plane, information processing and responsivity of the brain does not have any hemispherical bias or stair-asynchrony.
  - The brain can identify, respond to, and generate magnetic current. As an epitome of Knowledge it acquires the capability of transmitting bliss.

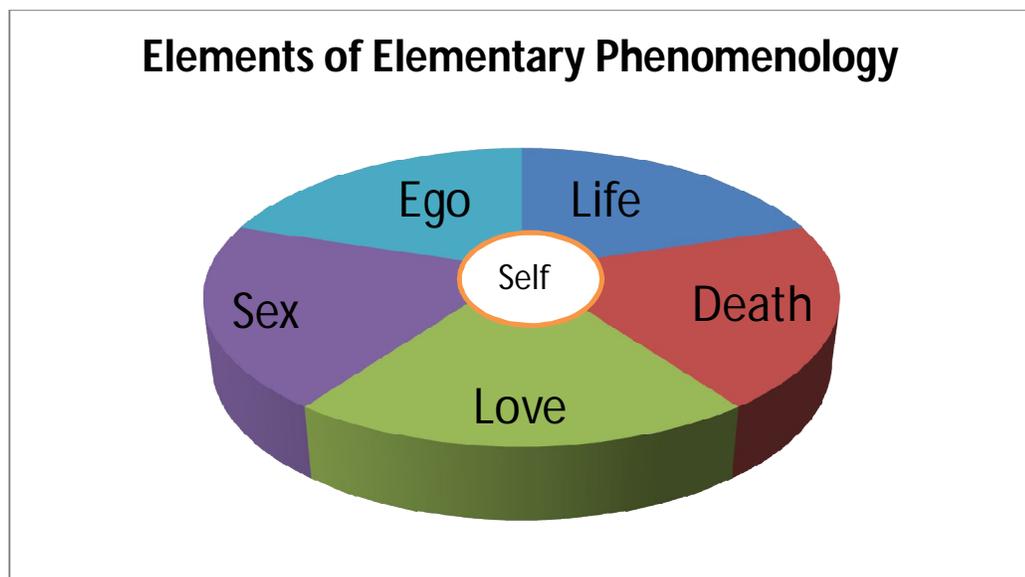
- Behavioural and Attitudinal changes
  - Arrival of Unconditional Love and Harmony.
  - Feeling of Timelessness
  - Feeling of *Blessedness, Purity and Perfection*
  - Experience of Grace
  - Deep Harmony and Peace
  - Feeling of Fearlessness and Divinity

## PLANE III: ELEMENTARY PHENOMENOLOGY

Currency : Information

The third Plane is comprised of the elementary phenomena. It is on the road towards Mother, from the quantum world to Her abode and also from Her abode to the quantum world. It has the following features:

- Life, Death, Love, Sex and Ego are the elements of elementary phenomenology. They maintain an interwoven, common-origin, often indistinguishable and superposed relationship. Their superposition is at subtler and deeper level as compared to quantum superposition.



- Here, Love, Sex and Ego run the phenomenal world while Life and Death link the phenomenal with the noumenal world.
- It has three sub-planes—depth phenomenology, elementary phenomenology and surface phenomenology of classical and quantum worlds. One enters the third nest from the classical and quantum plane through the surface phenomenology, then goes through elementary phenomenology and finally reaches the depth phenomenology. After depth phenomenology, one surrenders and enters plane of Mother Nature.
- Elementary phenomena bridge the planes of animate and inanimate worlds and connect both of them vertically with the plane of Mother Nature. Each of the living and nonliving worlds open up through elementary phenomena to a plane where the purpose is sorted out and is finally determined.
- During this mechanics the appropriate value system comes into focus. This alters the meaning and context accordingly. The mechanics works on a principle of transformation of meaning and context towards integration, essential for surrendering to plane of Mother. This transformation is accompanied by creative emergence.

- The outcome of a visible perturbation at this level could be predicted from the informational and causal integration of the five elements (mentioned above) setting up a context with the (purpose and will of the) Whole.
- This mechanics deals with the meaning and context of events. By transforming the meaning and context of events it brings forth the appropriate value-system in focus , best suited for the desired design. The purpose of this transformation is to transform the meaning and context towards an ultimatum for the development of phenomenological integration. → This could be considered to be an evolutionary drive that is guiding the process of Evolution.
- Seven modes of Time are observable here. Time may be linear, reversible, irreversible, spiral, circular, still, surrendered to plane IV, or invertible. These different time modes are what make this plane full of confusion and hence one feels lost here.

## **Phenomenologically Integrated Brain**

A quantum integrated brain is the pre-requisite for developing phenomenological integration of the brain. A phenomenologically integrated brain is in the nodal point of Love, Sex, Life, Death and Ego. It has transcended all these elementary phenomena and hence is ready for another milestone. A phenomenologically integrated brain has the following characteristics:

- It has biologized the interwoven, superposed and often-indistinguishable relationship of five elementary phenomena. In the process, it transcends the bondage of various cultures (transcultural).
- Free information/causal currency exchange amongst five elements within such a brain confers stability, durability and sustainability.

- Such a brain cannot cause elementary phenomena, though it can envisage it. It is yet to gain expertise in handling the causal currency.
- It exudes impeccability, involvement, honesty and devotion to the mission/purpose it is meant for.
- There is no sign of hemispherical bias in such a brain. There is complete synchronicity between upstairs and downstairs of cerebral cortex during information processing and responsiveness of the brain.
- Such a brain has mastered an uncertainty at a deeper level though it still experiences uncertainty in simultaneous observation of existence and nonexistence.
- There is development of a Biological Integration Centre (BIC) from the cortical neurons at the highest convexity of the brain. This BIC is the supreme homeostat, the *brain* of a brain.

## PLANE II : QUANTUM MECHANICS

Currency : Energy/Field

Quantum Mechanics is the plane where one deals with quantum objects. Here, one starts looking inside an atom, nucleus, electrons, protons, light etc. It is the point upto which mathematical formalism has reached till now. But, this formalism becomes silent in the face of quantum discontinuity and quantum void. This is where quantum physicists are baffled. QM has the following properties:

- Quantum Mechanics tries to explain the lowest denomination of energy/physical object that is measurable and exchangeable.
- Quantum mechanics is a field of infinite possibilities. Here the choice of an observer can also play its role.
- It is characterized by quantum identity (coherent superposition of multifaceted states in potential), quantum discontinuity and nonlocal communication.

- Quantum events do not seem to be caught/captured in the sensory world but their results do. It is so global that it can be applied to any discipline of science and any theory can be interpreted in quantum way in addition to its classical version.
- Quantum mechanics is incomplete because of its inability to resolve quantum paradoxes e.g. wave-particle duality, coherent superposition, uncertainty principle etc.
- But quantum mechanics also has some other limitations.
  - It remains confined to the mechanics of events.
  - Its emphasis is totally on quanta, and not on something existing in-between quanta.
  - Nonlocality establishes simultaneity of events. It retains discontinuity of events because it does not dissolve Planck's constant. It cannot explain identity of events.
  - It cannot explain New creation or creative emergence during transformation.
  - A quantum mechanical system behaves differently in the presence of an observer and in the absence of an observer.

## Quantum Integration of the brain

- A quantum integrated brain is the one which has biologized the principles of quantum mechanics. In this integration, the brain as a whole can behave as a macro-quantum object and bears quantum signatures namely, quantum identity, discontinuity and nonlocality.
- Here the brain has surpassed its classical objectivity, causal determinism, and the ability to behave locally. There is no more hemispherical bias.
- A QI brain is, however, value-neutral.
- It has mastered quantum uncertainty, the uncertainty in simultaneous observation of its two complementary properties. However, it suffers from another kind of uncertainty i.e. simultaneous observation of conditioned properties and its existence.
- Uncertainty limits the cognitive ability of the observer. Nature observes a stratified nested hierarchy in organization. Perceived uncertainty for an observer-dependent

reality are found in all the nests except classical plane. Those uncertainties are the following:-

1. Between two canonically conjugate properties-Nest II. These canonically conjugate properties are position and velocity, angular momentum and angular position or energy of the particle and the time at which it is measured.
2. Between properties of an object and its very existence-Nest III. The ability to distinguish properties from the existence of the object reflects sharp cognitive skills.
3. Between existence and non-existence-Nest IV. Here, properties of the object are irrelevant.
4. Between non-existence and new existence-Nest V. Unconditional consciousness as a perceived reality either does not exist or exists as a reality that is new, novel and hither-to-unknown. It appears as a new 'form' every time one tries to observe and describe it.

# PLANE I : CLASSICAL MECHANICS

Currency : Matter/Energy/Classical Field

- This is the plane that is perceived by our senses. It is the plane from which modern science as we know it now, has emerged.
- Here, objectivity, determinism, continuity and simple causality are found. It is because of these predominant and biased conditionings that scientists find it difficult to accept other possibilities like science of consciousness.
- This domain is governed by Newton's Laws and Theory of Relativity. Normal logic and linearity is characteristically dominant in this plane.

## **Brain in the Classical Plane**

The brain here is characterized by three strata of consciousness.

- Cortical Consciousness: Responsible for unity of consciousness, Self-Consciousness, judgement, discrimination etc.
- Limbic Consciousness: Responsible for basic motivations of seeking pleasure and avoid the unpleasant like hunger, thirst and sex.
- Brainstem Consciousness: Responsible for alertness, wakefulness and orientation.

# Ananda and Open Brain

## **What is an Open Brain?**

- A fully open brain is the one which has gained the ability to communicate freely with consciousness at Interuniversal plane. Such a brain is at Ease, enjoys freedom, has literally infinite number of choices.
  
- An open brain has an open mind and an open Self. It is the brain of the Being.
  
- It has openness in its Thermodynamics. It is no more thermodynamically closed.
  
- It is quantum integrated brain. It is also capable of handling information from outside i.e. it is capable of having Extra Sensory Perceptions and nonsensory perception.
  
- It can handle hard currency of 'causality' and 'life'. It is capable of handling the stream of phenomenology with deft and dexterity.
  
- In such a brain, consciousness within and consciousness without are in complete communion.

- Ananda means feeling of Ecstasy and Blissfulness. It is a sign of biologization of supracortical consciousness at the level of limbic nuclei. It begins to manifest unconditionally when S.C.C. silences the cerebral cortex completely and then pervades the infracortical zones.
  
- An open brain is completely consumed in Ananda. It enjoys complete Freedom, Ease and infinite choice-making capability. There is Freedom from Certitude and Probabilities. In the state of Ananda, Consciousness-Mother Nature remains the inviolable constant.
  
- It is proposed that when a scientist has gained accessibility to the Mechanics of the Being, then only would he be able to frame a complete picture of consciousness.

## Thomas Campbell's "My Big TOE (Theory Of Everything)"

Thomas Campbell's My Big TOE tries to explain the complete picture of everything, keeping Consciousness at the base of the whole scenario. He has deduced this theory based on his experiences during Meditation. Here is a brief synopsis of his Theory of Everything:

### ➤ Two Assumptions

- *Primordial consciousness* : Tom pre-assumes an already existent AUO (Absolute Unbounded Oneness) that is all that is. He has not conceived it to be Infinite and hence it may not be the Supreme Being. In its primordial state, AUO has a dim and disorganised awareness, though later it becomes AUM (Absolute Unbounded Manifold) which still is not Supreme.
- *Fundamental Process* : It is the process that is responsible for the urge to evolve. Here, evolution means decreasing the entropy of the system by making it more Love-like, less fear and ego dominated. This way it becomes more organised due to the lowering of entropy.

## ➤ How AUO starts Self-Evolution?

1. First AUO creates duality in itself by a local distortion. This is done by the use of Intent, which is weak at first, but evolves successively. Intent and the freedom to use it are said to be primary attributes of Consciousness.
2. This small disturbance in the AUO produces a binary state that is called as the "Reality Cell" (metaphorically the first living cell).
3. By increasing the number and variety of distortions, the first Reality Cell can divide into many digital discrete reality cells.
4. This way AUO proliferates into gazillions of "Reality Cells", upon which the Fundamental Process starts operating. This operation of the evolutionary process on the Reality Cells creates the rules for self-organisation.

## ➤ The Big Computer – TBC

1. In its urge to lower its entropy, AUO now finds it profitable to create within itself the consciousness-equivalent of computer memory space. So now it has both a processing or computational (pattern-grouping) area of reality cells and separate memory space. These might be considered as separate dimensions within Consciousness-space.
2. AUO has now evolved as TBC as it contains memory, processing, rules, operations and content. Digital logic and memory are needed to apply the rules of interaction between cells in this dim 'neural network' to make it brighter. What is profitable is retained, what is not is discarded.
3. Now, AUO has discovered that changing its state regularly has value. The reality cells can oscillate and their binary beat becomes organised Time. This Time separates a 'before state' from an 'after state'; time is a by-product created by the notion of change in consciousness.

4. Eventually, using the very useful technology of regular timekeeping, AUO, through hierarchical self-organization, becomes AUM, Absolute Unbounded Manifold.
5. AUM is still AUO, but subdivided, with highly structured Reality Cells -bright enough to be capable of running independent gedanken (thought-experiments) in pursuit of lower entropy. In effect, we now have mental spaces or dimensions in AUO. This can be compared to specialisation of stem-cells into organs or limbs in a multi-celled organism, or to the proliferation of species in the Cambrian explosion.
6. AUM creates NPMRS (Non-Physical Matter realities), undergoing simultaneous consciousness-brightening. They are separated from each other in frequency (time)-separated mental spaces (dimensions), and each has its own evolving rules. Many NPMRs evolve their own subsets with stricter rule-sets (physics) called Physical Matter Realities (PMRs). Each PMR is a different reality (Virtual Reality).

## Time and relative dimensions (Consciousness-) space

- How is Time used to separate realities? Time is said to be discrete, not continuous, with fundamental Planck-like scale units. The speed of light,  $c$ , evolved in our PMR to be  $3 \times 10^8$  m/s “conceptually defines the virtual size or conceptual spatial extent of a space-time reality cell”. The smallest quantum unit of time in our PMR might be the distance that  $c$  travels in that unit of time, say  $10^{-44}$  seconds. In other words, the constant  $c$  is derived from time (frequency) and it takes  $10^{-44}$  seconds for one of our PMR spacetime reality cells to change its state from non-distorted to distorted.
- But in our NPMR, the smallest fundamental Time unit might be  $10^{-62}$  seconds. In other words, NPMR Reality cells oscillate much faster. So for every  $10^{18}$  ticks of NPMR time, 1 unit of our time passes. Information travels much faster in NPMR. This gives plenty of time for TBC to do everything required to predict and back up PMR events in its databases.
- PMR time is nested inside NPMR time. A unit of PMR time occurs; once it is recorded and all significant probable futures computed, then the next in-

crement of PMR time ( $\Delta t$ ) is called by the procedure.

- Beyond NPMR, AUM's fundamental quantum of time might be (say)  $10^{-80}$  seconds. So AUM has plenty of time to review all the various thought-experiments taking place in all its myriad Virtual Realities. To AUM we are stepped-down and slowed down, and hence this builds up the proficiency of the evolutionary process.
- The purpose of all these conceptual realities evolving in their own mind space dimensions is that by exploring different conditions, AUM seeks to discover whether consciousness will end up love-like (lower entropy), or its opposite (higher entropy), or some stable state of equilibrium in between or chaotic.
- According to Campbell, Physical Matter Reality is not really what it seems; it is a conceptual construct of consciousness, an early learning environment. There are not 'really' 3 physical dimensions; it is a virtual reality created by TBC to constrain us to a limited set of rules.

- Psi uncertainty Principle: This principle states that Psi is never reliable enough to be regular and repeatable in “objective” PMR scientific terms (at least, so far). Psi can be experienced subjectively, but is not permitted to go so far as to destroy the general faith in causality. If it were so, then there would be less point in continuing our PMR experiment. Thinking that we are living in a dream might tend to stop us from getting involved in our PMR experiment.
- For example: Rarely is a-causal or paranormal information obtained from NPMR and then directly applied to develop or invent physical devices (giant leap) because the psi uncertainty principle would generally forbid that sort of overt information transfer. Otherwise evolutionary integrity would suffer.

➤ **Utility of all the above propositions- TOE taking its final turn**

- Campbell has extended the Virtual Reality metaphor by comparing our PMR directly to a VR in a computer game. All aspects of our environment are stored by TBC as probabilities, based on previ-

ous events and the requirements of the rule-set (physics).

- Our intent and power of belief possess the capability to change the PMR in their favour by strengthening the probability of those intended events.
- TBC stores all events, choices, calculates the probable future and also many alternative “what if” choices – that is, how events likely would have played out had we chosen differently; all in the same, potentially interactive way. This comes in very handy when we leave PMR. Not only can we explore and review our past lives, but we can also review all sensible branches had we made different decisions: so we can learn much more about what ‘might have been’.
- In Consciousness space, there is a huge social network, an Internet which Tom calls a Reality Wide Web (RWW), linking all the different Realities together. Our own PMR would be the equivalent of an intranet or LAN. There are many other PMR LANS within our NPMR. All are linked to the broader RWW in NPMR, and beyond via other ISPs to other NPMRs and their associated PMRs. If we have the knowhow, we can navigate the RWW by

intent and communicate telepathically. In NPMR each sentient entity has the equivalent of a URL and website where all its memories are stored.

- Is the future set? Can we peep into it through NPMR? Campbell says that it is to some extent, but it is also governed by freewill choices. Moreover the Psi Uncertainty Principle further interferes with the accurate return of information from NPMR to PMR.
  
- Is there any Law Protector in NPMR?
  
- Tom Campbell says that there is a Law Enforcement of a certain kind in NPMR. He calls it "The Big Cheese", a kind of demigod that is in charge of our NPMR, whose primary responsibility is to ensure that our thought experiments do not get off-track or sabotaged. Though Campbell also agrees that some degree of lawlessness is permitted so that our freedom to experiment is not harmed. Control is exercised to the minimum degree so as to maintain the integrity of each Virtual Reality.

➤ Why we are forced to come to PMR, and not directly evolve in NPMR?

- In PMR, we are forced to interact with certain elements with whom we normally don't want to associate ourselves with.
- Our PMR has random elements which we cannot predict. Such random stuff tests our mettle and gives us the opportunity to know ourselves under stress.
- In PMR, we are mentally isolated from our Source and have to "work out" to find out what is helpful to lowering our entropy and what is not.
- PMR gives us isolation from entities that might harm us. It is comparatively much safer than NPMR where Campbell reports to have encountered malevolent entities.
- Because experience is the generator of input, consciousness facilitates its own evolution by creating many smaller units of consciousness and setting them loose to evolve (lower their entropy) by interacting with free will.

## **SUMMARY of TOE**

- The larger consciousness system is an aware evolving system. It is real and therefore finite.
- A Consciousness evolves by lowering its entropy
- The larger consciousness system increases its rate of evolution by subdividing portions of itself into smaller units that interact with each other
- We are an individuated units of consciousness
- Everything is an expression of consciousness –all are connected
- Physical reality is a virtual reality learning lab designed to help budding individuated units of consciousness (called an entity) evolve (lower their entropy) through experience
- Lowering entropy by improving the organization (profitability) of accumulated experience increases the energy/power/information available to the evolving entity.
- Lowering entropy, spiritual growth, increasing the quality of consciousness, evolving one's consciousness, and growing up are all different expressions for the same thing.
- Love is defined as the fundamental expression of low entropy consciousness.
- The larger reality is teeming with Life

- Many different reality frames or dimensions containing sentient (conscious) entities exist and are interacting according to their own rule sets.
- All entities in our larger reality system have the purpose of lowering their entropy by growing up, by becoming more spiritual, by becoming love i.e., by eliminating fear and ego.

# **Similarities between the Models proposed by Dr. AK Mukhopadhyay and Thomas Campbell**

## **Basic Similarities**

Both Dr. Mukhopadhyay and Campbell

- Have accepted Consciousness to be the Ultimate Reality i.e. the Source of All-That-Is. They both have given prime role to consciousness. They have explained the origin of the scientific paradigm by keeping consciousness as originator of this whole reality.
- Believe in the incompleteness of present scientific paradigm and endorse a radical shift in it by making science of consciousness a central scientific paradigm.
- Clearly emphasise spiritual growth of the humans in order to comprehend the complete picture in its utter clarity. Dr. Mukhopadhyay stresses on fundamental integrations of the brain and uniting ourselves with consciousness that could bring order when working with life-principle, information and mind while Mr Campbell calls for trying out meditation which is an efficient pathway for exploring these phenomena.

- Have agreed that we all are individuated units of the same Consciousness and a complete merging with the Source is possible. They have claimed that these individuated units of consciousness co-evolve with each other in numerous universes. This evolution is based on unifying principle, as claimed by Dr. Mukhopadhyay, which states that consciousness starts from unity and then leads to multiple divisions i.e. it moves from unity to diversity.
- Believe in the idea that physical reality is the learning lab for us. We are here to gain more understanding and evolve ourselves by pulling our own bootstraps. Dr. Mukhopadhyay looks out for this evolution through the opening of the brain. He believes that we need to keep the brain at the centre of the paradigm because its evolution is a sure stimulant of rapid creative emergence.
- Have accepted the idea of Multiple Universes existing beyond. Dr. Mukhopadhyay calls it Multiverse and Campbell calls these universes to be the subsets of NPMR. He says that there are many NPMRs and each NPMR has many PMRs as its subsets.

## **Similarities regarding role of Quantum Physics**

Both Campbell and Dr. Mukhopadhyay

- Have given a solid theoretical foundation to quantum mechanics that is capable of resolving the quantum paradoxes. They have derived the Fundamental Reality keeping consciousness at the origin of the whole scenario.
- Have agreed that uncertainty is an important component of reality. While consciousness is evolving itself, there is a factor of uncertainty coupled in it at every step. Our cognitive ability is limited by this uncertainty. Dr. Mukhopadhyay has talked about uncertainty at each level (except classical) of his Pentaune reality model. He says that nature observes a stratified nested hierarchy in organization because of this uncertainty. Campbell also talks about the Psi Uncertainty Principle which severely limits our capability to cohere between the accuracy of informational content in NPMR and PMR.
- Have denied the existence of any paradoxes existing within science if we take consciousness to be the ultimate reality. They have argued that it is absurd to just take into consideration only the PMR as All-that-is. This has been a major block on the path of advancement of

science as it is guided by determinism and objectivity and is very limited. This model will remain flawed until and unless we recognise that there is a conscious intelligence that is working behind this whole scenario.

## **Similarities regarding ideas on Information**

Both Dr. Mukhopadhyay and Campbell

- Have given Information a great significance. They have recognised that information is a necessary currency that helps in communicating with consciousness. While Campbell says that at the fundamental level consciousness is information, Dr. Mukhopadhyay has assigned plane III to information that acts as a currency at this plane and has said that New information is the language consciousness speaks.
- Have insisted that informational mechanics deals with the meaning, content and significance of events. By transforming the meaning and context of events, this mechanics brings forth the best suited designs and this leads the meaning and context towards an ultimatum for the development of phenomenological integration. The direction of this whole mechanics is towards that of lower entropy.
- Have agreed that information is bipolar i.e. it has double aspect. Dr. Mukhopadhyay believes that the subjective pole of information interacts with the self and its objec-

tive pole is connected with the field of the signal of which it is information. Campbell believes that information is made of bits and these bits digital and binary, on or off, dot or dash, yes or no.

- Have agreed that the quality of information affects the PMR to a great extent. This implies the superiority of information over PMR. This can easily explain as to how our belief and intent can produce results in the PMR reality e.g. Placebo effect and hypnosis. "This is a major discovery of the 21<sup>st</sup> century", remarks Dr. Mukhopadhyay, "and this going to be the century of Information". And Campbell has tried to build a Future Probability Model based on the mechanics of information.
- Support the idea that information is not much accessible at the quantum plane. This is due to a constraint. Dr. Mukhopadhyay says that this is due to the informational tightness and quantum void that is present at the juncture of Plane II and III while Campbell has explained it through the Psi Uncertainty Principle. He has propounded that psi uncertainty principle limits the informational content and psi phenomena within the PMR lest it would degenerate the effectiveness of the learning lab. This gives usefulness and functional integrity to our virtual reality.

- Have talked about informational openness of the system-bound consciousness for a more evolved consciousness. They have said that informationally open systems are much more likely to evolve faster as compared to the informationally closed systems. Campbell has clarified this point through the concept of freewill acting as an important part of his *Fundamental Process* of evolution. And Dr. Mukhopadhyay claims that an open brain is one of the most important organ that can handle the mechanics of consciousness with deft and dexterity.

## **Similarities regarding the relation between Mind, Consciousness and Psychic Phenomena**

Both Campbell and Dr. Mukhopadhyay

- Have given the same analogy to the relation between consciousness and mind. They have agreed that consciousness is the software and mind is the hardware. Mind connects two conscious systems. It is the main agent which handles information.
- Have argued that mind is what deludes us from reality because of its tendency to 'cut consciousness into two'. They have proposed that the idea of space, time and energy is experienced because of the mind. This leads to a deterministic and objective approach to reality and hence distorts our vision. For a sound enquiry, we need to come out of the mind's clutches and experience consciousness in its Totality.
- Have given due importance to the psycho spiritual connection existing within each one of us. Dr. Mukhopadhyay has talked about it in both biologist's point of view and mystic's point of view. As a biologist he has said that it involves both hemispheres, on either side of central sulcus involving paracentral lobules of left and

right hemisphere. A mystic talks about it as a state of Grace. Campbell has acknowledged it as an important sign of our deepest connection with consciousness and it implies our capability to access the Reality Wide Web i.e. a social network linking all the different realities together.

- Have talked about the role of Near Death Experiences and Out of Body Experiences as an important contributor in providing scientific proofs that can result in giving useful evidential data regarding the existence of other realities. Dr. Mukhopadhyay says that transcending death leads to the phenomenological integration of the brain as death is also one of the elementary phenomena. He also urges us to probe into Cases of Reincarnation Type (CORT) and case of survival after death i.e. survival hypothesis. Campbell says that NDEs make the people clearly experience as to how their beliefs, intent and expectations have influenced their pasts and how they affect their probable future. OOBEs help in giving more clarity and understanding of the existence of other NPMRs and PMRs.
- Have supported the idea that various psi phenomena such as remote viewing, Out of Body Experiences, te-

lepathy etc. are the natural attributes of a developed consciousness. While Mr. Campbell says that it is due to lower entropy in the consciousness system, Dr. Mukhopadhyay has quite precisely put it in his planar divisions and explained the required integrations of the brain that produce such experiences.

- Have talked about the digitalisation of space-time and their connection with consciousness. Dr. Mukhopadhyay is more a bit more explicit in this regard. He has said that digitalisation is done by the mind and information is the source of space and time.

## Similarities in the context of Consciousness

Both Dr. Mukhopadhyay and Campbell

- Support the idea that Consciousness is filled with Life. They have supported this idea in their own ways. Dr. Mukhopadhyay calls Life to be the currency of Plane V i.e. the plane of Consciousness. Campbell calls it to be the embodiment of Creativity, Understanding and Love. He says that we can lower our entropy by letting go of our fear and ego and that is what AUM wants us to do.
- Have denied the Perfection, Supremacy and Absolute-ness of consciousness. Dr. Mukhopadhyay says that our evolution itself proves that consciousness at plane V is a failure. He says that evolution would go on and on with the evolution of more and more complex systems that are more organised than the previous ones. And one of these self-organising consciousness systems is *Homo spiritualis*. In the same tone, Campbell argues that there is nothing as such that is Absolutely Perfect. It is just an evolutionary game. Everything is evolving and expressing itself in more and more ways that is leading to suc-

cessive lowering of entropy and thus the creation of more successful and organized sentient beings.

- Believe that consciousness awareness is the active element that experiences the opportunity to exercise its intent as it interacts with virtual mass, energy, time, and other consciousness units that possess free will. Dr. Mukhopadhyay says that this expansion in our awareness is possible when our brain has undergone several integrations at different planes of the Pentaune reality model. He has proposed that such awareness would be accessible when we have successfully developed brain of a brain i.e. an ever-aware witness.
- Have extensively talked about causality and purposefulness to be the key features of reality. They have proposed that identifying this purposefulness is an essential requirement for every self-evolving and self-organizing system to cohere successfully with the purpose of consciousness. Dr. Mukhopadhyay has said that Mother Nature with Her currency of causality decides on the purpose of life (brought about by the working of consciousness).
- Have agreed that Consciousness is vibrant and ever-expanding. Dr. Mukhopadhyay says that it appears new every time one tries to observe it. And Campbell has

reasoned it out by his assumed Fundamental Process of Evolution which states that it is constantly evolving due to the rapid creation of infinite distortions in the reality cells in every moment of their existence.

- Support the idea that possesses the ability of metacognition, i.e. the capability to reflect upon its own content, level, state or creation. This property is not possessed by the mind. They have agreed that this capability of the consciousness helps it in maintaining the right direction of evolution.

# Differences between The Ideas of Dr. Mukhopadhyay and Thomas Campbell

## Basic Differences

<u>Dr. AK Mukhopadhyay</u>	<u>Thomas Campbell</u>
1. He approaches the study of consciousness mainly through biology (neuroscience) and mysticism.	1. He approaches consciousness mainly through physics. His model of reality has a component of technology in it as well.
2. He has proposed the Akhanda paradigm that deals with the apparent division of the In-divisible (Akhanda).	2. He has speculated that there might be the possibility of a still greater reality that is above the AUO (Absolute Unbounded Oneness).
3. He believes in the evolution of brain as a main component of the evolutionary process.	3. He has not specifically mentioned the role of brain in the evolutionary process, though he believes that lowering our overall entropy is the major purpose of our existence.

<p>4. He has classified entire spectrum of mechanics into 5 planes.</p>	<p>4. No such classification has been mentioned by him.</p>
<p>5. He has more scientific and investigative approach to Consciousness. He has clearly shown how each plane of his Pentaune model is connected with the other planes.</p>	<p>5. He has a technical approach. He has given a computer based model to consciousness. Moreover, he is a bit more philosophical than scientific. He hasn't tried much to relate his Big picture Reality with the present scientific paradigm.</p>

## Differences in views regarding Quantum Me- chanics

Dr. Mukhopadhyay	Thomas Campbell
<p>1. He has proposed that quantum discontinuity and quantum void are the two points which act as exit and entrance respectively to the plane of elementary phenomena.</p>	<p>1. No such points of entrance and exit have been proposed by him. He has just talked about Psi Uncertainty Principle, guarding the amount of information leaking into the PMR.</p>
<p>2. He says that freedom within a wide range of choice (free will) begins within plane II (quantum nest of nature).</p>	<p>2. He propounds the existence of freewill at the root of AUM. For him, there is freewill and consciousness are interwoven. That's why he says that there is no freewill without consciousness and there is no consciousness without freewill.</p>
<p>3. He says that nonlocality type II (Temporal Nonlocality) leads us to the notion that there is</p>	<p>3. He doesn't talk about nonlocality types as such, though he accepts nonlocality as an important phe-</p>

<p>a plane deeper than quantum plane.</p>	<p>nomenon of NPMR.</p>
<p>4. He has proposed that beyond quantum mechanics is the mechanics of Becoming and the mechanics of Being. The terminal part of becoming is through the mechanics of elementary phenomena.</p>	<p>4. He does not propose such mechanics precisely. Rather he states that lowering our entropy through the PMR is an important part of approaching unconditional consciousness.</p>

## Differences in their views on Information and Elementary Phenomenology

Dr. AK Mukhopadhyay	Thomas Campbell
1. He believes that unconditional consciousness is completely independent of information.	1. He believes that at its most fundamental level, consciousness is information.
2. He insists that information is the currency of plane III mechanics and it is through information that the elementary phenomena play their games.	2. According to him, mechanics of consciousness is similar to the mechanics of information. This is visible through his deduction "Information is non-physical, thus consciousness is nonphysical".
3. He has talked about informational energy. He states that the energy liberated from information is intrinsic energy and it is this informational energy leads to the production of matter.	3. He hasn't talked about any such informational energy, nor has he delved deeper into the concept of production of matter from information.

<p>4. He has talked about the idea of informational split, which leads to the conception of idea by the mind and release of energy in the neurons.</p>	<p>4. He has neither talked about the idea of informational split nor has he gone deeper into the question of how the mind conceives an idea.</p>
<p>5. He has proposed that when mind brings the information's inside out as 'form/image/idea', then space, time and energy are created. He has stated that information geometry connects Matter-Mind-Consciousness.</p>	<p>5. He has insisted that it is the mind which gives rise to space, time and energy, but he is silent about the role of information here. Probably this might be due to his assumption that consciousness is information.</p>
<p>6. He has insisted that plane III is the plane of Elementary Phenomenology wherein Life, Death, Sex, Ego and Love play their games. Upon going to the extreme of these phenomena, one reaches the phenomenological integration centre of the brain.</p>	<p>6. He has said that Love, Ego and Fear are the main emotions that are measurable quantities in terms of their entropy. All these phenomena interact with each through their freewill which in turn leads to their evolution/ devolution. He is silent about the integrations in the brain which take place when one has transcended them.</p>
<p>7. He has propounded that there are seven modes of Time in this plane. Time can be linear, reversible, irreversible, spiral, circular, still, surrendered to plane IV, or inverted.</p>	<p>7. He has talked about the origin of time, but hasn't mentioned these seven modes of Time specifically.</p>

<p>8. He has mentioned that Love, Sex and Ego run the phenomenal world while Life and death link the phenomenal world with the noumenal world.</p>	<p>8. He hasn't talked about this distinction clearly.</p>
<p>9. He has said that when one has transcended this plane of elementary phenomenology, then a collection of sensitive neurons, the supreme biological homeostat is formed on the crown of cerebral cortex.</p>	<p>9. He has not mentioned anything about the formation of a brain of a brain, though he has mentioned some of the attitudinal transformations accompanying evolutionary growth.</p>
<p>10. He has proposed the idea of phenomenological mechanical tunnels (PMT) that accounts for the phenomena of tunnelling.</p>	<p>10. He has not touched the phenomena of tunnelling.</p>
<p>11. He has stated that quantum mechanics is linked to the mechanics of elementary phenomena in the region of quantum discontinuity through intervention by <i>Neutrino</i> and <i>Weak Force</i>.</p>	<p>11. No such connection between quantum world and elementary phenomena has been linked through quantum discontinuity.</p>
<p>12. Dr. Mukhopadhyay has not talked about any possibility of technological evolution that could lead to the creation of self-organized systems and hence support consciousness.</p>	<p>12. Campbell has proposed that silicon-based computers once would be self-organized and support consciousness. This shows that he attempts to redefine Life in its own regard.</p>

## Differences in the context of Evolution

Dr. Mukhopadhyay	Thomas Campbell
<p>1. Evolution operates through the transformation in the meaning and context of events at the level of elementary phenomenology. He states that this transformation leads to an ultimatum for the development of various integrations. He hasn't specifically talked about the entropy factor.</p>	<p>1. He believes that evolution operates in the direction of lowering of entropy. This lowering of entropy is the driving force behind this evolutionary process.</p>
<p>2. He has talked about various stages of evolution in the context of integrations in the brain and hence changes in its structure. These integrations have been talked about quite extensively in his work.</p>	<p>2. He hasn't mentioned any such stage-wise evolution and specific changes in the brain structure.</p>
<p>3. He has mentioned that biologization of supracortical consciousness through the Biological Integration Centre (BIC) as ultimate goal of our evolution. This would lead to the manifestation of unconditional Love and Creativity.</p>	<p>3. He has talked about unconditional Love and creativity as the ultimate goal of evolution, but is silent about the stages of biological development of the brain. There is no mention of something analogous to BIC.</p>

<p>4. He has also talked inverted neuraxis model through physiology and anatomy. Moreover, he has extensively discussed neurology of chakras and Kundalini Awakening as an important process of evolution.</p>	<p>4. He has not discussed these things extensively. Rather he has just mentioned it as a part of spiritual development.</p>
<p>5. He has given due importance to the biologization of Supracortical consciousness at the level of Limbic nuclei as Ananda. This has been shown with the qualities which emerge along with this biologization e.g. illumination, intuition, revelation and transformation.</p>	<p>5. He has just talked about some of these aspects demonstrable through his experiences, but has not gone deeper into the science of these changes.</p>
<p>6. According to him, evolution is thought to be 'informed' through the experience of generations. Information is the currency with which elementary phenomena play their role.</p>	<p>6. He has considered evolution to be a Fundamental Constant, but has not given much attention to the role of information in the evolutionary process.</p>
<p>7. Evolution-Transformation- New creation is the scheme of Dr. Mukhopadhyay's design. Evolution continues up to nest I and II; Transformation is in nest III. New crea-</p>	<p>7. He has talked about evolution and spiritual transformation, but hasn't developed a particular scheme for these changes in particular.</p>

tion is an outcome of nest IV and V.	
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## Differences regarding the ideas on Self, Mind and Life-Principle

Dr. Mukhopadhyay	Tom Campbell
<p>1. He has proposed that the Self is an individuated unit of consciousness that gets confined to the system through elementary phenomenology. He says that the self is the experiencer in awakened, dream and deep sleep states. According to him, Self is the programmer and stores of information.</p>	<p>1. He hasn't used the term self as such. He has said that the individuated unit of consciousness is the experiencer, but he has said that the processing and memory creation is done within the consciousness space and he is not clear about how these spaces are separated from each other.</p>
<p>2. He says that the mind retains memory of information.</p>	<p>2. He says that the memory of information is stored within consciousness equivalent of memory space in The Big Computer.</p>
<p>3. He has talked about life as an important currency of the joint interaction between consciousness and Mother Nature.</p>	<p>3. He hasn't discussed about Life in much detail.</p>
<p>4. He is clear about the concepts of Self, mind and Life-Principle.</p>	<p>4. He has mixed these terms quite often and is not precise in their use.</p>

<p>5. He says that matter, mind and consciousness come along a vertical axis i.e. consciousness can't act directly on matter. It requires mind in between for communication.</p>	<p>5. He has talked about mind-matter dichotomy.</p>
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## Differences b/w ideas about Consciousness

Dr. Mukhopadhyay	Tom Campbell
1. He considers unconditional consciousness to be independent of information.	1. He considers consciousness to be information at its most fundamental level.
2. He says that consciousness is the ground without any background and is independent of all foregrounds.	2. He speculates that consciousness may or may not have a background.
3. He has proposed that there is dissolution of information in consciousness. According to him, consciousness executes its mechanics on Will.	3. He does not say that there is dissolution of information in consciousness. Rather, he believes that it is the information in algorithmic form that directs consciousness.
4. He has talked about Ananda (ecstasy) of the Being following fulfilment of Becoming i.e. merging with the Source. He says that Ananda is point of singularity of space, time, purpose and pleasure at the level of infinity, eternity and immortality.	4. He hasn't discussed this aspect of Blissfulness and the point of unification of space, time, pleasure and purpose.
5. He believes that Life is the currency for mechanics of	5. He hasn't mentioned anything about the currency of

consciousness.

consciousness or life.

## Conclusion

Upon doing a comparative study of the works of Dr. AK Mukhopadhyay and Thomas Campbell, it can be concluded that even though both of them somewhat different approach and ideas on some points, still their overall and broad vision is quite concurrent. They are fervent supporters of a new paradigm in the scientific world that could give a broader picture of reality and resolve all the paradoxes. Undoubtedly, both are future legends. Dr. Mukhopadhyay has combined mysticism and science, which is perhaps the strongest possible blend that is capable of explaining reality at this juncture. Since his work is so strongly blended with the reality model, it can be expected that future generations would be ever grateful to him for his bold and insightful hypotheses. His Pentaune model of Nature-Consciousness, hypothesis of interconvertibility of currencies in various planes, nine spoke wheel model for churning, superposed drum model for churning, representation of elementary phenomena as chain of multidimensional pentagons, concept of informational splitting and conception of idea by the mind and concept of formation of a brain of the brain by the biologization of supracortical consciousness are extraordinarily fabulous. Thomas Campbell's Big TOE is a unique work. His concepts about the origin of time by the reality cell model, reality wide web (RWW) and psi uncertainty principle are some of his best

propositions. His model of digital consciousness is also unique. It is now the task of future scientists to investigate these models in as much depth as possible. This is the beginning of a new paradigm and therefore demands great attention on our part. Truth should not be bound within the shackles of immature distinctions of traditional subjects. It is necessary to drop all the preconceived ideas before exploring truth. This is what Dr. Mukhopadhyay and Thomas Campbell have shown through their outstanding contributions.

## My Views on the Works of Both Scientists

Following are some of my views on a few ideas of both the scientists:

- According to me, there is the possibility of something beyond consciousness i.e. consciousness might be answerable to something bigger than it. Maybe it is a fractal reality that has no end at all i.e. unconditional consciousness consisting of many other unconditional consciousness which in turn consists of many other unconditional consciousness and so on. I think so because we know about the Will and Purpose of consciousness, but we don't know about the origin of this Will and Purpose e.g. consciousness wants to evolve and create, then why does it want to create? Shouldn't there be something that 'Wills' this unconditional consciousness of plane V to evolve and create?
- There is no proposition on understanding. Where does it come from? How is it different from awareness? Surely, whatever we can conceive is through our understanding. Dr. Mukhopadhyay says that a new kind of understanding requires a new kind of brain that has achieved integration at all the five levels. But, can we

understand the limit of our understanding? If we go according to a statement of an Upanishadic sage, then the best definition of the Ultimate reality is neti neti (not this, not that). Does it mean that our plane of understanding is left out in the plane III or IV? Is understanding different from experience? Dr. Mukhopadhyay says that we can transcend the elementary phenomena if we can understand them in depth. So would that be equivalent of experience of the elementary phenomena?

- Campbell's analogy of the model of consciousness with digital consciousness implies the comparison of human creation (digital consciousness) with the consciousness that created the humans. So, it is possible that his model is restricted by the psi uncertainty principle. It is like modelling the creator by the creation of his creation which is governed by various limitations.
- I feel Dr. Mukhopadhyay's model is closer to the correct paradigm for the exploration of consciousness than that of Campbell. The reason is that Dr. Mukhopadhyay does not confuse consciousness with life and information. For him, all three are distinct entities and their relationship is quite clear to him. He also distinguishes mind from consciousness and for him 'Self' is individualized consciousness customized for the system. He talks about the evolution of the brain (with several integrations)

concurrent in understanding of ultimate reality of consciousness. Also his ideas on Multiversity demand great appreciation. I think that understanding of the biological intelligence of a self-organizing conscious system is more reliable than understanding the artificial intelligence of an algorithmic digital consciousness system.

- I also feel that understanding yoga and meditation in more depth can give us great clues about consciousness. Though Dr. Mukhopadhyay has researched on meditation, but still there is lot more to be understood about these various techniques e.g. the science of Karma Yoga, Bhakti Yoga and Jnana Yoga and how they elevate the level of consciousness.
- We also need to adopt some techniques that could help us in measuring consciousness. Though Campbell has proposed entropy to be an important contributor in its measurement, I feel that complete understanding of information and life is also needed.

Therefore, it is necessary that we should try to understand consciousness through the intelligence of a conscious system. Though both of them have given us a good starting point, it is up to the future generations as to how they utilise these works. A final theory is definitely not made now. Hence we

have to look out for the maturation of science and the scientists before we can expect a final theory that can explain everything and can be really called the Theory of Everything.