

WISDOM OF BOTH EAST AND WEST HAS A COMMON SOURCE, CONSCIOUSNESS

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ABSTRACT

The division of civilization and culture into East and West is man-made and is a recent one, a few thousand years old, advanced during the era of imperialism, colonialism with a tangential desire of some nationalists for establishing racial supremacy. Present-day science is also only a few hundred years old as compared to the whole process of evolution starting from the origin of our universe to the culmination in state-of-art human being. The development of human brain, which is yet to complete its evolution, represents the pinnacle of the process. Irrespective of location in the East or in the West of this earth, the human brain with its cultural bias remains the common equipment for data acquisition with the help of its local resident like neurons and nonlocal 'influential' like self, mind, life-principle and consciousness. Acquired data (a space-time construct of information) is converted by mind into meaningful information called informative knowledge. It is then filtered to the level of self as formative knowledge and self can use this knowledge without further deliberation on it. When knowledge is lived and experienced by several members through successive generation, formative knowledge transcends the barrier of time and space (culture) and consolidates into transformative knowledge and staggered as information-manifold within life. Finally with approval and concurrence of consciousness, transformative knowledge crystallizes into wisdom. Bottom-up, wisdom is accumulated experience over time, which has stood the test of life. Top-down, wisdom crystallizes only with the approval of consciousness.

Holding human consciousness as invariant, it is easy to find out two groups of opinion-makers in the world, accomplished scientists and accomplished mystics corresponding to two ways of acquisition of knowledge, empirical and intuitive. However, because of disproportionate distribution of such opinion makers across the East and West of this planet earth, a distinction in the perspectives of population's collective consciousness is palpable at present. This paper is to discuss the difference and commonness in the two perspectives, and

to suggest that the present day difference is to disappear in next two hundred years when the science of, and the science for consciousness is expected to percolate the mass culture.

THE PLAN OF THIS PAPER

In this essay we would begin with discussion on the differences in approach to consciousness in the east and the west. This would be followed by a brief review of western philosophies, which could be of help in developing a science for consciousness. Next, we would highlight the Indian philosophies, which could contribute to such development. The final section is on issue of reconciliation of the two.

EAST-WEST DIFFERENCE IN APPROACH TO CONSCIOUSNESS

East and west have approached consciousness differently with their respective cultural bias. As Huston Smith [1] puts it succinctly in the 'Cleansing the doors of perception', "Indian philosophy differs from Western in that Western philosophers philosophize from a single state of consciousness, the waking state, whereas Indian philosophizes from them all." All other differences crop up from this basic difference in approach. In the eastern culture, mystical views on consciousness predominate while in the western culture the scientific views are dominant. In *Prasna Upanishad* three unanswered questions, which the humanity has asked again and again, have been highlighted. What is God (read consciousness)? Who am I (read self)? What is this world? East has focused on 'self' to get into consciousness while west wades through the 'world' to get into the same. Eastern and western cultures, however, are not monolithic. Inside the east there is west. Inside the west there is east. There are scientists with mystical mind. There are mystics who follow strident scientific methodology in recording their experience. Nevertheless, it is better to group the two approaches separately for convenience and understanding their complementarities.

East has accepted consciousness as a fact of underlying reality. It does not emerge from anywhere or any interaction. It is there! It is given! Any framework cannot define it. Although consciousness cannot be defined, consciousness could be qualified. Its first four qualities or attributes, all are transcendental in nature, are Immortality, Eternity, Infinity and *Ananda*. In contrast, the west has always sought a definition, at least a working definition for consciousness. A consensus dictionary meaning of consciousness for them is awareness of self, awareness of surroundings (outside) and awareness of the feelings and thoughts inside. Expression and language could be included in this definition as

the manifestation of consciousness for communicating in second and third person's perspectives. For the west, consciousness is an emerging property from the complexity of matter.

For the east, consciousness could not be localized. It is nonlocal. It is not bound by any space or time and it is also free any from causal matrix. The west has searched for consciousness within the locality of the brain. They have epitomized the concept of neurocentric consciousness. Consciousness for them at best is an emergent property of neural networking, a specific space-time geometry created by neuronal manifolds within the brain. To the eastern seekers, consciousness is independent of the brain, that is true for any brain anywhere any time. It is consciousness, which uses the infrastructure of the brain for its manifestation. For the western researchers consciousness confined to the brain vanishes with death. Consciousness is therefore mortal, time-bound (as long as the brain is there), and finite. Consciousness, for the west, is necessary for experiencing pleasure, sensing time and space and understanding causality. Cause, time, space and pleasure are four non-transcendental attributes of consciousness corresponding to its four transcendental properties as mentioned earlier as immortality, eternity, infinity and Ananda respectively.

In fact, all this could be seen as a matter of emphasis on 'noun' or 'verb' aspect of consciousness. The emphasis again differs in non-transcendental and transcendental realm. Broadly speaking, in the non-transcendental realm, in the mundane domain eastern culture lays emphasis on 'verb' (e.g., the work has been done, not being bothered by who has done it), while western culture highlights the 'noun' (e.g., Mr. John has done the work). In the transcendental realm, it is just the reverse. East focuses on ontological status of consciousness while the west concentrates on its epistemological implications. The eastern seekers want to know what consciousness is! The western researchers opine, should consciousness exist what does it do? Consciousness will be known to the world by the mechanics it plays.

The east distinguishes the hierarchy of matter mind and consciousness. Many of the western scholars have used the term mind and consciousness synonymously and interchangeably. For them our brain is a part of matter. In the eastern cultures, especially in Indian culture, mind has dual properties; dealing with matter in one hand and consciousness on the other hand. In the east, the brain is not just matter! It is a live organ. In the west there is little effort to find out the relation between 'life' and consciousness. They consider neuron-consciousness relationship as matter-mind relationship. For them,

information handling by mind is all about and what is important and relevant in science for consciousness.

In the west, consciousness and knowledge have been often regarded as the same, if not identical. To know is to become conscious. To become conscious means to know. In the east, consciousness and knowledge are different. All knowledge is within consciousness. With gain of knowledge, which tends to concur with the holism of consciousness there is a concomitant process of becoming. Eventually, *Brahmavid brahmaiva Bhavati*. He who knows *Brahman* (unconditional consciousness) becomes *Brahman*.

While the east focuses on the possibilities of personification (individuation) of different levels of consciousness in human development, the west focuses on the mechanism of consciousness in nature, if any, which would be useful for innovative technology. The east offers the ontology of 'being', the west at least is eager to discover the process of 'becoming' in nature, to explore different invariants, laws and principles in deeper recess of nature, also their relationship, if any.

The eastern seekers seek consciousness within. They use self-consciousness as a tool to reconcile brain-independent consciousness with brain-trapped consciousness. Experience is recorded from first person's perspectives. Western researchers look for consciousness at other's brain. The subject they select may be a practitioner of meditation or a yogi. Technologies used are electron encephalography (EEG), nuclear magnetic resonance (NMR), positron emission tomography (PET), single photon emission computerized tomography (SPECT), magneto encephalography (MEG) etc. to find out the neural correlates/correspondence of consciousness. Their approach is from third person's perspective. Even if they ever adopt an internal method it still remains observational (intro *spection*) and cannot be said a method, which is realizational or experiential.

Eastern scholars close their eyes, minimize their sensory inputs and then turn towards unconditional consciousness. Western scholars with open eyes concentrate on the effect of stimulation of visual cortex to understand consciousness. They try to find out clues on consciousness, if any, following sensory stimulation of the visual cortex. Sensory curbing has been accepted as a must for consciousness-explorers of the east. Sensory enhancement has been the rule of observation for consciousness-explorers from the west. Non-sensory and extrasensory visual images during meditation are regarded as 'godly'/ divine for an eastern seeker. For a western seeker those are considered hallucination or illusion.

First person's direct experience in the eastern culture is self-evident. It is considered as revealed truth. It has reflexive validity. In any problematic situation when there is any kind of suspicion in the process of experience, it is crosschecked from the pioneer, the precept they love to call as Guru, who has experienced it earlier and is able to guide the first person's experience. This may be accepted as evidence from second person's perspective. In western culture, the validity of any experience is based on evidence, which is public (third person's perspectives).

Even within the brain, the east and the west differ in approach to consciousness. East's focus is on imagination, non-sensory perception and on intuitive knowledge acquired by the brain. For them, the brain is an 'open' system. It is open at its top level (*sahasrar chakra* on the top of the brain) and communicates with cosmic and supra cosmic plane. Its evolution as an organ is incomplete and has been still going on! For the west the functionality of the brain is limited 'within the system'. Its multi modal sensory-motor integration and acquisition of empirical knowledge are all about the brain. For the west, the brain is a closed system. Its crown, i.e. cerebral cortex, is informationally closed. Evolution of the brain for an orthodox western scientist is a closed chapter.

In the eastern philosophy, consciousness is simultaneously transcendent and immanent. In the west, such description could be found in Perennial Philosophy. However, the focus of the east is on the transcendent realm, especially on *consciousness as such*, which implies an informationally 'open' cerebral cortex of the brain. In contrast, the western emphasis remains on conscious experience that is sensible within the 'closed' box of the brain.

PHILOSOPHIES OF WESTERN ORIGIN THAT ARE OF HELP IN DEVELOPING THE SCIENCE FOR CONSCIOUSNESS

Modern western philosophy, in general, has been broadly built up on unity of science principle (USP). This trend has been followed after publication of a seminal treatise of Auguste Comte, *cours de Philosophie Positive* in 1842. According to the scheme of Comte, there are three sequential stages: (i) theological, where all observed events are explained by citation of will and intention (ii) metaphysical, where will and intention are replaced by abstract concept of power and force and (iii) positivistic, that works with the laws of co-existence, association and conjunction. There are, however, western philosophies, which are admixtures of both scientific and intuitive truths e.g. the works of

Descartes, Leibniz and Whitehead. There are also exceptional modern western philosophers like William James who based their philosophy more on intuitive truth inviting scientific truth to adjust with the revealed truth.

Most of the western philosophies go by the name of the person who propounded it. Western philosophy, although could be stated to start from Thales (around 600 BC) about 150 years before Socrates, it is Socrates-Plato–Aristotle lineage, which makes the base of Western philosophy. Followings are a brief account, which seem relevant in developing a science for consciousness.

Socrates (469-399 BC), Plato (428-347 BC) and Aristotle (384-322 BC)

Greek philosophers Socrates, Plato [2] and Aristotle [3] have influenced developmental lines of science. No document written by Socrates is available. Socrates wrote nothing since he believed that he did not know anything. However, it is Socrates who is the first on historical record to pursue the art of disinterested enquiry. The gift of Socrates to science is the art of asking question to get a response without incon-sistency (dialectics) and thus the art of reasoning which remains the principal tool for science. The gift of Socrates to consciousness and spirituality is his famous statement, “Know thyself”. We quote the incident quite often when Socrates moves in the street with a lamp in his hand in broad day light in search of a pure man. This immediately reminds us of axiology of consciousness. Socrates taught that personal integrity was more important than gods, laws and Power. From the ethics of Socrates, arose many ethical schools, which served the human kind for worthy years. Modern scientific concept of consciousness that it emerges from the activity of neurons is supposed to scroll down from Socrates.

It is said that Socrates was the flame, which illumined Plato as candle while Aristotle represented the spark. While Socrates’ gift was dialectics, Plato’s gift to the west was logic. Plato’s ‘world’ of ‘Forms’ is supposed to constitute the deeper reality. While Socrates had a leaning towards theology, will and intention, and Plato had a leaning towards metaphysics Aristotle was more worldly and positivistic. Most of the modern western philosophies could be traced back to Plato while most of the development in western science owes it to Aristotle. In the context of consciousness, Aristotle’s ‘*unmoved mover*’ seems to be a very important description for consciousness as an absolutely stable ground. The concept of teleology is of Aristotle’s. Plato’s ‘*entelechy*’ is a similar description for the soul. Even today, Roser Penrose’s [4] *The*

Road to Reality is based on three worlds, physical world, mental world and Platonic world. In Plato's theory on soul, one could see three parts, which correspond to three different kinds of interests, three kinds of virtues, three kinds of personalities. It depends on which part of the soul is dominant in a given individual. He also used to say, "God, forever, geometrizes". Plato's allegorical cave still inspires the modern truth seekers. We are inside the cave looking at the shadows, not yet in touch with the Reality.

According to Sir James Jeans [5], "The outstanding achievement of twentieth century physics is not the theory of relativity with its welding together of space and time, or the theory of quanta with its present apparent negation of the laws of causation, or the dissection of the atom with the resultant discovery that things are not what they seem; it is the general recognition that we are not yet in contact with ultimate reality. We are still imprisoned in the cave, with our backs to the light, and can only watch the shadows on the wall."

Both Plato and Aristotle have contributed to development of human ethics. Jonathan Shear [6] has mentioned that there are two major character-development approaches, external and internal. The former had been the approach of Aristotle and the latter of Plato. "The external approach emphasizes internalization of accepted norms and emulation of ethical exemplar. The internal approach relies on what are taken to be culture-invariant aspects of human consciousness, and emphasizes development of the individual from within." Aristotle was tutor of Alexander, the Great, who wanted to unite Indian and Greek cultures but Aristotle never approved the idea.

Other Greek Philosophers of peri-Socrates era

Thales himself was a Greek who lived in what is now Turkey. He propounded that all things are made up of one substance, which is water. His disciple, Anaximander, however, stated that this substance is beyond space and time. It is he who brought the concept of mind in western philosophy. Pythagoras was a mathematician as well as a mystic. The words, 'cosmos', 'theory', 'philosophy' are attributed to Pythagoras. He believed in existence of soul and its transmigration. According to Bernard Russell, 'Platonism' in essence is 'Pythagoreanism'. While most of the Greek philosophers laid emphasis on static form and geometrical symmetries, it is Parmenides (? 460 BC) who made an advancement by stressing more on the process. The idea that the essence/substance of everything continues to exist came in western philosophy from Parmenides. In the context of individuation and science for consciousness, Parmenides will be remembered for

stressing on the skill of ‘surrender’ for attaining higher spiritual goal. There was Anaxagoras (?500 BC), who found mind beyond all physical changes and distinguished entity with mind, and without mind. Leucippus (?440 BC) and Democritus (?420 BC) were atomists, who brought the concept of atom, which are indivisible, always in motion and remain separated by space.

Plato’s Academy was established in 386 BC. It served for about 900 years and was closed down by Christian King Justinian in 529 AD, which ushered the dawn of ‘Dark Ages’ which continued about 1000 years. The Dark Age, ‘the mediaeval period’ was full of skeptics as well as cynics and stoics (spiritually inclined with intellectual mind). Two saints, Augustine and Aquinas, were instrumental to amalgamate Christianity with philosophy of Plato and Aristotle respectively. Augustine realized and propounded that without the Grace of Lord (read unconditional consciousness personified) it is not possible to know him. Aquinas introduced the terms and concepts of ‘existence’ and ‘essence’. Ockham put forward his view that any explanation on a new advancement should be done in the simplest way possible with minimum number of invariables (popularly known as Ockham’s razor).

Following this dark period came a new breed of thinkers in the west in late sixteenth century onwards.

Rene Descartes (1596-1650)

Rene Descartes, the French mathematician, philosopher and scientist is the first person to recognize consciousness in his publications. “*Cogito ergo sum*”. “I think therefore I am”, said Descartes. To keep Church away from interfering with science he postulated *substance dualism*, which is popularly known as the Cartesian cut, the deep chasm between matter and mind. Arrival of Descartes ushered the end of Dark Ages. In 1633, he wrote the book, ‘The World’, but because of the fear of Church it was not published; His ‘Discourse on Method’ was published in 1637 and ‘Meditation’ in 1641. However, following his death the church put his all books in ‘The Index of Banned books’.

Spinoza (1632-1677)

Born Jewish, short lived (only 45 years), led a life of saint. He was a firm believer of Pantheism. Spinoza drew inspiration from Descartes but went beyond him. For him, at the fundamental level mind and body are same which surface as two aspect of one reality. Both the aspects are independently infinite (compare *Purusha* and *Prakriti* of Samkhya philosophy, where they are standing back to back. Each one is independently infinite).

John Locke (1632-1704)

‘No man’s knowledge can go beyond his experience’, - was his famous statement. However, for him, only sense organs are conduits of experience. He is, therefore, considered as the father of ‘Empiricism’.

Wilhelm Leibniz (1646-1710)

The great mathematician, inventor of calculus, Leibniz’s philosophical contribution of ‘monad’ may seem important for us. According to him, the universe is composed of monads. Monads have a hierarchy and each grade in this hierarchy reflects a corresponding degree of the universe (cf., holography). Leibniz’s worldview was not confined to one universe only. It extended over several universe(s), which in the terminology of modern cosmologists has been called multiverse. He described the concept of ‘analytic’ and ‘synthetic’. He also offered the ‘Principle of sufficient reason’.

George Berkeley (1685-1753)

‘To be is to be perceived’, - said Berkeley. This is reflected in John Wheeler statement, - “a phenomenon is a real phenomenon only if it has been observed by a conscious entity’. Being a Bishop in Ireland, Berkeley was a believer in God and in existence of self.

Immanuel Kant (1724-1804)

Newtonian Science and Euclidian geometry influenced Kant. Kantian philosophy [7] is well known for his ‘categorical imperatives’ and ethics (Kant’s moral philosophy), which are important for attitudinal disposition of a consciousness-scientist. As Leibniz introduced the term ‘Synthetic’ and ‘Analytic’, Kant introduced the concept of ‘a priori’ and ‘a posteriori’. The ‘thing-in-itself’, according to Kant, is the noumenon which becomes phenomenon after being perceived by mind of conscious entity (cf. Berkeley and Wheeler). For Kant, all rational wills are auton-omous. That mind makes nature has been accepted now as Kant’s Copernican revolution. That mind of the knower actively contributes to acquisition of experience of object around us is the key to understand Kant’s transcendental idealism. According to Kant, transcen-dental consciousness is the ultimate source of conceptual synthesis. Since consciousness can never be an object of senses, categories cannot be applied to it. He also believed that law could not bind creativity. Freedom is the most important necessity for creativity and, to say, for any human endeavor. Kant did not avoid existential issues. He discussed the existential issues and differentiated sensual from the transcendental and also the sublime from the beautiful.

Kant was, however, of the opinion that humanity is the end in itself.

In emphasizing categories, he neglected the process. Kant never tried to define what he meant by transcendence. Kant is said to be a failure in reconciling the masculine with the feminine components of the Reality.

George Wilhelm Friedrich Hegel (1770-1831)

Hegel belonged to the period of German Idealism. In the post Kantian period, he presented us with a comprehensive and systematic ontology as said by R.P. Singh [8]. From a logical starting point, Hegel's notion of the Spirit (*Geist*) has been compared with Sankaracharya's notion of Absolute consciousness. The difference is that Hegel would never accept pure immediacy in the Absolute whereas immediate experience is the very heart of Sankar's absolutism. For Hegel, "Philosophy is itself, in fact, worship; it is religion, for in the same way it renounces subjective notions and opinions in order to occupy itself with God...". "The central claim of Hegel's philosophy as against Kant is that we cannot speak of the Absolute without at the same time speaking of self-consciousness of human mind, nor fruitfully pursue that interrogation itself unless we conceive our activity in doing so as one sustained and made possible by the Absolute." Singh also points out that Hegel's teleological account of history, estrangement and dialectical unification was later taken over by Karl Marx who "inverted" this into a materialistic theory which culminated into communism.

Alfred North Whitehead (1861-1947)

Whitehead [9,10] was influenced by Einstein's theory of Relativity. For him the reality is a process. His philosophy is called process philosophy. "The creative process is thus to be discerned in that transition by which one occasion, already actual, enters into the birth of another instance of experienced value. There is not one simple line of transition from occasion to occasion, though there may be a dominant line. The whole world conspires to produce a new creation. It presents to the creative process its opportunities and its limitations."

It is argued [11] that Whitehead's process philosophy takes us beyond both ontological Cartesian Schism (substance dualism of mind and matter) and epistemological Kantian impasse (we can never know anything about the physical world other than as ideas or forms in the mind) by simply accepting the view that matter and mind are related as phases in process; 'Now subject, then object'.

There are three more important philosophies of Western origin that could contribute considerably in development of a science for consciousness.

Aldous Huxley (1894-1963): Perennial Philosophy

Transcendental essence is hierarchically immanent is the dictum of Perennial philosophy. Although the 'transcendental' element poses the problem of subjectivity in science, the emphasis on hierarchy of nature and hierarchical transcendentalism is relevant in developing a science for consciousness. Perennial philosophy misses the process in nature.

Jan Christian Smuts (1870-1950): Systems Holism

Systems theory is based on holography – the whole is represented in every fragment, every part and every point of the system. Therefore, the more you know the part in detail the more you could have glimpse of the whole. The theory has its reflection in self-organizing system. The theory talks of the process but all processes must be within the system. Following this, the brain has also been compared with a hologram, interpreting a holographic universe (Karl Pribram). It is not static. It is all flux (David Bohm).

Systems holism is limited by its boundary-problem. All processes are within the system. The boundary is impervious. No extraneous influence is acceptable in explaining the function of the system. Therefore, the theory suffers from the problem of vertical depth.

Johann Wolfgang Von Goethe (1749-1832)

German Scientist and poet Goethe preferred to derive multiplicity from a preexisting reality rather than reducing pluralism to a commo-nality. The process of blooming of a whole tree from its seed is an important example. Goethean Philosophy and Goethean phenom-enology advocates an inside-out and outside-in phenomenon in the process of describing total reality. Inside-out and outside-in phenomena of Goethean science pose existential issue which science in its present form is not ready to address.

We will fall short of our referral till we do not mention five modern American philosophers of science who have been influencing the devel-opment of science for consciousness.

Patricia Churchland

According to Churchland [12,13], consciousness is too vague for empirical research. If we know all about the brain, consciousness could be explained. Till such time, it would be fare not to confuse and mislead science with consciousness. She therefore propounded the view, which is known as Eliminative Materialism. "Electrical current in a wire is not caused by moving electrons; it is moving electrons. Genes are not caused by chunks of base pairs in DNA; they are chunk of base pairs."

Daniel Dennett

His approach is strictly that of a physicalist, functionalist and heter-phenomenologist. Dennett [14,15] upholds the philosophy followed by cognitive scientists; mind is consciousness. To him consciousness is all about neural networking and information flow. Mind works like a computer. Consciousness is not required for mind to function as mind. “What RoboDennett still does not know” has been written by Michael Beaton [16].

Colin McGinn

“Consciousness is terminally mysterious”, says McGinn [17] (new mysterianism). The problem of consciousness is insoluble. Even if consciousness is not super-material or supernatural, “Human mind lacks the cognitive ability to understand the nature of Consciousness, just as monkeys can not understand particle physics”. To the critics, this is known as cognitive closure hypothesis. Evolution of the brain and therefore of cognitive ability has been ignored in McGinn’s viewpoint.

John Searle and Thomas Nagel

It is John Searle who is optimistic to opine, “Consciousness is one of the rare philosophical problems that will have a scientific solution”. Both Searle and Nagel [18,19] distinguish consciousness from conscious experience. Three characterizing features ascribed to awareness, are (i) Privacy (ii) Unity and (iii) Intentionality. However, Nagel pointed out an intrinsic asymmetry between subjective and objective aspects of consciousness that keeps it removed from naturalistic understanding. Nagel also emphasized a lacuna in consciousness-research by saying, “What we lack in a science of consciousness are rules for extrapolating subjective properties (consciousness) from the properties of objects (interconnected nerve cells)”..., Nagel continues, “.....To arrive at that theory, we will first have to discover the elementary components of subjective consciousness.” “This discovery”, Nagel argues, “will be of enormous magnitude and implication and one that may require a revolution in biology and most likely a complete transformation of scientific thought”, quoted by Kandel [20].

John Searle distinguished two types of emergence [21]. Searle pointed out that consciousness could be best understood as a *causally emergent* feature of the brain. “The existence of consciousness can be explained by the causal interactions between elements of the brain at the micro-level, but consciousness cannot itself be deduced or calculated from the sheer physical structure of the neurons without some additional account of the causal relations between them” (Searle, 1992, p. 112). This is what he calls Type I emergence. “A much more adventurous

conception” in emergence, what he describes as Type II emergence, would be when the emergent has independent life and causal power to influence the parts from which it emerges. He calls this idea ‘naïve’. “If consciousness were emergent 2, then consciousness could cause things that could not be explained by the causal behavior of the neurons. The naïve idea here is that consciousness gets squirted out by the behavior of the neurons in the brain, but once it has been squirted out, then it has a life of its own (Searle, 1992). This roughly conforms to Robert Van Gulick’s radical kind of emergence [22] and also to the proposition of Michael Silberstein [23].

Finally, we like to mention the works of two accomplished mystical philosophers from west; both are from America, whose philosophical works are not biased by scientific formulations of the past or present but are endowed with the ability to help in developing a science for consciousness.

William James (1840-1910)

Considered as Father of American psychology, James’ book, *The Varieties of Religious Experience* [24] remained in print continuously since its first publication in 1902. He describes experiences ranging from mundane to higher consciousness, superficial psychology to depth psychology, ordinary experience to ineffable experience. *Journal of Consciousness Studies* published centenary essays on James in their September-October issue of 2002. The same *Journal* in July 2005 reproduced James communication on *The Notion of Consciousness*, at the fifth International Congress of Psychology held at Rome in 1905 (a strange coincidence of the year of publication of Relativity by Einstein). His characterization of transcendence offers valuable clues for development of its science. It is interesting to note that William James described Swami Vivekananda from India as the ‘Ambassador of the East’.

Ken Wilber

Ken Wilber [25, 26], the modern philosopher from USA who is well versed with Sri Aurobindo’s work [27], popularized the concept of what is meant by ‘integral’. He used this concept extensively in his personal development and therefore also in his writings, which he labels as fourth phase of writing. Following Sri Aurobindo, he also advocates an integral approach by which he means that “transcends and includes”. Like Sri Aurobindo, he also talks of levels, planes and hierarchy. “The ‘higher’ comes through the ‘lower’, rests on the lower but does not come from the lower. All of the lower is in the ‘higher’ but not vice versa. It is this not vice versa which makes hierarchy”.

Wilber has established an Integral Institute in USA. His propositions for an Integral University and for Integral Medicine are getting acceptance in USA. He builds up this on his four-quadrant model; Individual and Collective, each having an Interior and an Exterior. Individual-Interior determines 'Intention'. Individual-Exterior determines 'Behavior'. Collective-Interior is reflected as 'Culture'. Collective-Exterior is what is known as 'Social'. He distinguishes states of consciousness, levels of consciousness, lines of consciousness and planes of consciousness. One has to consider all four Quadrants, at all Levels, in all developmental Streams and at all States. Therefore, it is called AQAL (short form of All Quadrants, All Levels, All Streams, All States) model.

The model has not worked as expected. Why? The causal force for effecting an integral process is conspicuous by its absence in this scheme. Development of anything integral is not merely an intellectual endeavor. Essential for its development is the causal factor/agent/ force. Till we get into what could be this causal agent, we are far away from any practical solution.

Indian Philosophies that help in developing a Science for Consciousness

“The spiritual heritage of India is one of the world’s standing miracles. It would rank among its greatest human achievements were it not that “achievement” isn’t really the right word. It is more like a reception - the opening of people to receive, through inspiration, the Breath of the Eternal.” - Huston Smith [28].

Leaving aside some materialistic philosophy like that of Carbaka, Indian philosophy is mostly based on intuitive knowledge and although interconnected and co-evolving with individuation, every teaching here has to stand on its own merits irrespective of who is the teacher. The message is more important than the messenger. In this sense, it leans towards characteristics of science. Indian philosophy is not monolithic. “For every psychological term in English, there are four in Greek and forty in Sanskrit” (A. K. Coomaraswamy). Broadly, there are Hindu philosophy, Buddhist philosophy and Jain philosophy. Buddhists and Jains, although, do not accept Vedanta of Hindu philosophy as authoritative, (may be for historical reasons) they accept the authority of transcendental and revealed truth and therefore in essence there is little difference between the three in the context of human knowledge. The Buddhist philosophy has already been cultivated in the west and has

been helping in developing a science for mind, if not for consciousness. While Buddhist philosophy remained mostly confined to brain-bound consciousness and ignored cosmology, Hindu philosophy stretches out to cosmology, primordial creation and brain-independent consciousness. Such Hindu philosophy is thus inclusive of inner and outer cosmos.

There are six systems of Hindu thoughts (called six *darshans*)

1. *Nyaya* of Gotama, deals with reasoning and logic
2. *Vaisesika* of Kanada, deals with notion of space, time, matter, causation
3. *Samkhya* of Kapila, deals with creation based on twenty five different elements
4. *Yoga* of Patanjali, deals with eightfold path of union of body, mind and soul
5. *Mimamsa* (also called Purva Mimamsa) of Jaimini, deals with right-eousness in action, ethics and aesthetics in rituals
6. *Vedanta* (also called Uttara Mimamsa) of Vyasa, deals with pathway to Supreme knowledge

Very grossly speaking *Nyaya* describes the cognitive aspect of the brain function, *Vaisesika* the material world, *Samkhya* the cosmology, *yoga* the psychology, *Mimamsa*, the hermeneutics and *Vedanta* deals with the notion of the Absolute.

Six systems make three pairs; Nyaya-Vaisesika, Samkhya-Yoga and Purva Mimamsa-Vedanta. In the gradation of ascending order of experi-ential truth, Vedanta is held as the final word. Common to all of these systems is existence of a hierarchy of matter, mind, self/consciousness. All agree upon the supremacy of self/consciousness.

Distinction between self and consciousness is more clear in Sankhya and most clear in Vedanta. “Unlike in Advaita and Samkhya, consciousness in Nyaya-Vaisesika is not substance but an attribute of the self”. “Consciousness in Nyaya is more like empirical consciousness (mind) in Advaita which manifests as intentional awareness” [29]. However, all six systems are in agreement that mind has a physical aspect and a consciousness aspect. Let us describe those in brief.

Monistic Materialism of Carbaka

Although nothing is definitely known about Carbaka from historical perspectives, India never ignored Carbaka’s philosophy of materialism, sensuality, space-time matrix of the experiential reality. Carbaka’s philosophy is the philosophy of a sensualist in combination with

skepticism for any other realm of existence. According to Carvakas, when four elements namely, earth, water, fire and air (Carbaka did not accept the existence of fifth element, *akash*) combine together, consciousness is generated, - a view similar to many neuroscientists that consciousness is nothing but combined activity of a pack of neurons. In totality of India's philosophical spectrum, Carbaka's materialism has a limited, nevertheless a specific room.

Dualism

Unlike substance dualism in the West, where mind and matter are separate substances, the dualism in India indicates 1) a relationship between the same 'substance' separated by space, time and purpose, 2) between two facets of the same Reality or 3) a combination of one and two.

1. Dualism between the same 'substances' separated by space time and purpose

Dualism of Madhavacharya (1238-1317) deals with relationship between small 'i' and capital 'I' through a refined emotional playing (*Bhakti*). Madhvacharya was the most profound advocate of dualistic philosophy in *Bhakti-Vedanta*. It is the refined and directed emotion, called devotion, which is considered as the vehicle of communication between the two, the soul and the God, the self and unconditional consciousness *Jivatman* and *Paramatman*, brain-bound consciousness and brain-independent consciousness.

2. Dualism between two facets of the same Reality (Samkhya Dualism)

Consciousness and Nature could be expounded as the masculine and feminine components of the Reality. While the mystics explore the masculine (Consciousness) component, the scientists are engaged with the feminine (Nature). The mystics explore consciousness (*Purusha*) and offer us intuitive wisdom. Scientists explore nature (*Prakriti*) and offer us empirical truth.

The dualism of *Samkhya* is between the masculine and feminine components of the Reality. Consciousness (masculine, *Purusha*) and nature (feminine, *Prakriti*) form an inseparable duo but facing the opposite direction. The strategic flaw here is, as if nature and consciousness are two different entities standing back to back, facing the opposite direction and is independently infinite. Therefore, the idea, opinion, doctrine originated from this type of notion is uni-faceted. There is no scope for any process like evolution. It is good for analysis and that too to a specific extent and is not probably useful for any synthesis of the Whole.

Therefore Purusha of Samkhya is a non-evolving purusha. Samkhya accounts for two Purusha(s) (*Khasara* and *Akhsara*). *Khasara* is the perishable world-consciousness. *Akhsara* is the imperishable self-consciousness. In contrast Vedanta accounts for three Purusha; *Khasara*, *Akhsara* and '*Uttama*' (compare *Purshottama* concept of Gita). *Purushottama* there is a personified unconditional consciousness, supracortical autonomy, Sadguru, who acts as the magnet for human evolution en-masse.

3. A combination or 1 & 2: Dualistic Non-dualism

This deals with relationship between small 'i' and capital 'I' in the context of both consciousness and nature. This is one of the five kinds of non-dualisms, which takes dualism within its fold (see below).

Nondualism

In consciousness study, the absolute nondual consciousness has been regarded as the Ultimate. In India, even non-dualism has six sub-schools. All of them seem to have relevance in developing a science for consciousness.

1. Sankara

Non-dualism of Sankara (788-820 AD), called *Kevaladvaita*, accepts nondual consciousness as the only ultimate. (As Niels Bohr derived his complementary principle in QM from Chinese Yang-Yin version of reality, many other doyens of QM like Schrödinger and Heisenberg drew their philosophical nourishment from nondualism of Sankara). The school completely disregards nature, the feminine component of the Reality and therefore, any creative feat according to this philosophy is a self-deception or illusion (*Maya*). Brahman is the only truth and the world is false. Self is as inactive as Brahman. It is non-anthropomorphic and excludes possibility of any personal God. When we take the view that consciousness is absolutely impenetrable, it is attributeless, indeterminate, a-cosmic or, non-definable consciousness, we have been speaking from *Kevaladvaita* position.

2. Ramanuja

Consciousness cannot be defined. However, it can be qualified. It is immortal, eternal, infinite and is perceived biologically as *Ananda*. This kind of statement emanates from *Visistadvaita* (first propounded by Ramanuja, 1017-1137 AD) position. There is non-duality of the qualified Whole. When we say consciousness is biologically perceived as *Ananda*, we are acknowledging anthropomorphic tilt in non-dualistic view. Isvara (the Supreme), chit (self) and achit (world) are three essential One in this philosophy.

3. Vallabhacharya

Instead of brushing aside the nature/prakriti, the school of *Shuddadvaita* accepts it as a Reality. Since consciousness is not illusory and the nature is in its possession, nature cannot be said illusory too. Nature of consciousness is as pure or as untainted as consciousness itself. Nature is thus distinguishable but not different from consciousness. Nature works as the kinetic facet, mobile pole, and executive front of consciousness. This nature could also be personified. This is the position of *Shuddadvaita*. Vallabhacharya first advocated this in the first half of sixteenth century (or fifteenth century). Supreme Brahman/Immutable Brahman (Parabrahman), the Self (Akshara Brahman), and the Brahman as the World (Shakti) are three essential One in his philosophy.

4. Nimbarka

May I be many! There are occasions when consciousness duplicates itself (self replication). It creates a self-image in nature to experience tension in the act of union (enjoyment) and tension in separation (suffering) in the state of duality. Consciousness could reflect, crystallize and even 'personify' in nature. This is a duality in unity, described as Dualistic non-dualism. *Sadguru* (Supracortical Autonomy) and Consciousness Absolute, are therefore identical (Guru, the Master, is *Brahman*. *Brahman* is Guru, the Master). The view could be an example of *Dvaita-Advaita* (first propounded by Sri Nimbarka (?) – 1162 AD).

5. Sri Chaitanya

Distinction between nature and consciousness is not that important. It is rather irrelevant! Consciousness is nature and nature is consciousness. Nature is naturally intoxicated with consciousness and consciousness is purposeless without nature. This is inconceivable oneness and difference, the *Achintabhedabhed* (Sri Krishna Chaitanya, 1486-1533) school of Non-dualism. Let our nature get completely intoxicated with consciousness and we will be in a position to experience both consciousness and nature. When one's nature becomes pure nature one is consciousness. There is thus a process that is evolutionary that acknowledges *becoming* of nature. *Achintabhedabhed* seems more relevant for those scientists engaged in consciousness-based study of nature. While (matter)/nature-based studies of consciousness are mostly disappointing and even frustrating in science, consciousness-based study of nature (matter) appear rewarding in the sense that it promises to reveal a few radical laws/principles of nature that could not be known by matter-based study of nature or consciousness.

6. Advaita Saivism,

This originated in Kashmir (8th-16th century), propounded nature and consciousness as indivisible 'Biune Reality'. The ultimate Reality, the *Parama Shiva* (in the present context, Consciousness) is indivisible from *Shakti* (in the present context, Nature) at every point of space and/or time or even at no space no time domain. As the burning ability of fire cannot be studied separately or independently from the fire itself, similarly the mechanics of *Shakti* cannot be completely explored totally detached from consciousness. Consciousness and nature, therefore, are interdependent both ontologically and epistemologically. This leap from nature to 'shakti' is a huge one. In Advaita Saivism one sees the primordial 'vibration', the dynamism in the inseparable operation of the masculine and the feminine component of the Absolute Reality, This philosophy offers a new linguistic approach to consciousness. Three primary qualifications of Nondual Consciousness namely, Existence (*Sat*), Knowledge (*Chit*) and Bliss (*Ananda*) are embedded in Advaita Saivism as two aspects of *Shakti* namely, *icchashakti* (Power of Will) and *kriyashakti* (Power of Action) [30, 31].

In the recent past, there are three phenomenal spiritual upheavals in India in ninetieth-twentieth century.

1. Ramakrishna-Vivekananda lineage with revival of Vedanta in the West.
2. Sri Aurobindo and the legacy of his profound work.
3. Akhandamadleswar Sri Sri Swami Swarupananda Paramahansa Dev

The philosophies of Sri Ramakrishna and Sri Aurobindo have made finer improvements on this Biune Reality. Sri Ramakrishna replaced the phrase *Shakti* of Advaita Saivism with *Mother*. This is an unprece-dented leap, which had been demonstrated in his personal life wherein he worships his married wife as Mother. The whole philosophy of Sri Aurobindo stands on this Mother's strength [32]. For Swami Swarupananda Paramahansa, all and any feminine component as a person or an entity in nature, from the bottom to the top is Mother or Mother Nature. All these developments led to the culmination of a synthesis, called the Akhanda philosophy.

Ramakrishna-Vivekananda

Sri Ramakrishna at his full fruition was a personification of an ideal that reflects Advaita-Saivism, the biune reality of Consciousness-Mother Nature. His direct disciple, Swami Vivekananda said, "I have a message for the West, as Buddha had a message for the East". Vivekananda redefined religion, the goal of humanity and its methodology. "Each soul is potentially divine", thundered Vivekananda in America,.....".

“The goal is to manifest this Divinity within by controlling nature, external and internal. ...Do this either by work, or worship, or psychic control, or philosophy by one, or more, or all of these and be free”... “This is the whole of religion. Doctrines, or dogmas, or rituals, or books, or temples, or forms, are but secondary details”.

Sri Aurobindo (1872-1950)

Sri Aurobindo ushered the descent of the ‘Divine’ on this very earth. He himself experienced and eloquently expressed this descent from ‘supramental’ to mind and from the mind to the material. The process is divine materialism. He demonstrated in life the physical conquest of death in his seminal work *Savitri* [33] and opened up the door for a greater psychology with layers of mind like ordinary mind, higher mind, over mind, intuitive mind, illumined mind and super mind. It has led to a great synthesis involving the inner and outer cosmos both as a system and a process. He reconciled evolution and creation by introducing the concept of involution in between. His views and concept of ‘Mother’ as the prime Force of Consciousness is extremely useful in connecting the ‘material’ with ‘spiritual’. The nature of consciousness could be called Mother Nature of which the rest of the nature is an extension. In contrast to a mystic who engages directly with consciousness, the scientist deals with nature and as consciousness also possess a nature, there emerges a possibility of a science for consciousness.

Akhandamandaleswar Sri Sri Swami Swarupananda Paramahansa Dev (1890-1984)

Swami Swarupananda had been more practical in terms of knowledge, skill and attitude, in his philosophy, work and devotion [34]. As a great human resource developer he operated with humanity’s ‘stem cell pool’ from the countryside of Bengal, Tripura, Assam, Bihar, Jharkanda and Orissa and erstwhile East Bengal (now Bangladesh), initiated the beings to proliferate and to differentiate on their respective natural direction. For him, the Source pool for this material world is the *Essence* of the system of multiple universe(s), the Multiversity. The *Essence of the Multiversity* in form of a cosmological realism offers nourishment to the roots of the inverted neuraxis (tree) of human tabernacle.

THE AKHANDA PHILOSOPHY

The Akhanda Philosophy deals with Indivisible with Divisions, plurality without compromise of the autonomy of the individual within the whole, which encompasses multiple universe(s) [34]. There is no reduction anywhere. It accepts *nature as an indivisible extension of consciousness*. Feminine component here is not *Shakti* (of Advaita Saivism) but *Mother* (like Sri Ramakrishna and Sri Aurobindo). Unlike

Advaita Saivism, which focuses on the Ultimate reality, the Akhanda philosophy zooms on the Total reality. The view upholds the parental Biune concept of *Advaita Saivism* down up to the basic and rock bottom of the matter where any, every and all feminine elements is considered as ‘Mother’. The ideology is not of *maya* or renunciation but is rooted in Love. In the Akhanda philosophy, with Mother’s love, the matter and the senses are also real. The ‘matter’ here does not produce self-deception and could not be ignored also as ‘illusion’. Consciousness, matter and all in between, are real. The process in the Akhanda Philosophy, like Sri Aurobindo’s, is integral, in contrast to Advaita Saivism where the process is Real-Ideal/Ideal-Real.

In contrast to Advaita Saivism where the operation is always a joint mechanics of consciousness-nature [34], activities are five in number; Self-concealment, Creation, Sustenance, Destruction and Grace, the Akhanda Worldview upholds operation of consciousness of his own, a joint operation of consciousness-Mother Nature and the operation of Mother Nature of her own (see the Table below) and there is scope for Grace in all three.

Operation of Consciousness	Joint operation of Consciousness-Mother Nature	Operation of Mother Nature
Absolute Ease Self-concealment Maintenance of its own supreme sovereignty and independence	Creation Destruction	Sustenance Determination of Purpose Scrutiny on unconditionality during bidirectional transformation Execution of upside-down, inside-out and outside-in phenomenon
Power of Will	Grace of Consciousness- Mother	Grace of Mother Nature

According to the Akhanda Worldview, consciousness remains the only invariant in all equations or relationships what the science intends to explore. All other invariants and constants, natural or man-made (e.g., Einstein’s constant, Planck’s constant etc.), are considered flux in nature. The roots of the Akhanda are in the systems Multiversity, the largest intellectually comprehensible pluralistic system of multiple universe(s). Therefore, the vertical depth of the *Akhanda* metaphysics extends far beyond the Z.P.F. (zero point field), and dark matter and dark energy in sub-Planckian scale. It penetrates into the essence of the Multiversity (the system of multiple universe), the Ultimate Source Field.

The Akhanda Philosophy incorporates Perennial philosophy, Systems holism and Goethean philosophy into an overarching One. Multiple universe(s) form the highest comprehensible systems (cf. systems holism). At the boundary of the universe, there is an inside-out phenomenon (cf., Goethean philosophy). The human neuraxis behaves like an inverted tree with roots open to the eternity and the branches down as peripheral nerves. The transcendental reality (Consciousness-Mother Nature), although, is beyond this farthest inversion point (cf. Transcendental Essence of Perennial philosophy) there are cascades of such inversions in different nests of nature. Nature shows a hierarchically nested organization. The determinism seen in the most superficial nest of nature, i.e., in the classical world resembles the certitude observed in the transcendental world of consciousness.

The Akhanda Worldview represents the culmination of Indian philo-sophical thoughts through materialism (of *Carbaka*), unbreakability of self (*atman*) and dualism of *Samkhya*, the discipline of *Bhakti*, unconditional non-anthropomorphic non-dualism of Sankara, other non-dualistic schools of philosophy, the biune reality of *Advaita Saivites*, 'Mother' of Sri Ramakrishna and Sri Aurobindo, also taking into consideration of the ongoing evolution of the present human species towards the divine being (Sri Aurobindo) / divine-human (Swami Swarupananda) / *Homo spiritualis* (in science). Development of science for consciousness cannot be dissociated from individuation, the personal growth of the scientist. The Akhanda philosophy predicts arrival of divine-human (*Homo spiritualis*) within a time frame of 300 years. This period covers nine generation of conscious effort by present humanity for production of necessary genetic infrastructure to sustain consciousness of higher domain. Finally, we concede that the Akhanda philosophy itself is an open-ended and evolving philosophy and the followers are welcome to contribute to its further development and ramifications.

Unique position of the Brain in the practitioners of the Akhanda Philosophy

The Akhanda philosophy transcends and includes all. The brain stationed at, and functioning in the Akhanda state of the being could be said to have tasted the experience of every individual station of the base camps at different altitude and that of the summit, and in the process has acquired the ability of having freedom from any territorial enslavement without losing the capacity to enjoy the richness of every territory in fitness of the proper context. This positioning of the brain is unique in the Akhanda Worldview.

There is an assumption in Nondual philosophy that the pathway from dualistic base to the terminals of non-dualism, from anthropomorphic

non-dualist post to the summit of non-anthropomorphic non-dualistic apex is a one-way. Once at the top, it is impossible, or is extremely difficult for 'self' to come down. *The Akhanda philosophy* as lived by its founder, *does not support such stand*. Surely, as there are ways to climb up and so also to come down. In this sense, the Akhanda State of the Being indicates a much *more mature and flexible state of the brain* upholding its openness, plasticity and integrating capacity. The *primal essence* (read consciousness), which drives 10^{11} neurons and almost similar number of glial cells within the brain, is also the driving force of 10^{11} stars in a galaxy and 10^{11} galaxies of the universe!

The Akhanda

The *Akhanda* is the one in whom the Akhanda worldview has been personified. For those who all are familiar with the Indian vocabulary of spiritualism, the *Akhanda* as a person is an embodiment of *sat*, *chit* and *ananda*, respectively of the world, self and *Brahman*, three purushas; *kshara*, *akshara* and *uttamo*, three prakritis; *apara*, *para* and *parama*. The Akhanda is a personification of the three 'Alternate Absolutes' of World, Self and *Brahman*. (The concept of 'Alternate Absolute' has been introduced by K. C. Bhattacharya. This is a new way of expressing the Upanishadic *Om* (Brahman) *Tat* (Self), *Sat* (World), or *Sat Chit Ananda*!)

Following is a tentative comparative table of similar ideas in the east and the west on World Self and Brahman.

	World	Self	Brahman
1. Philosophy of	Object	Subject	Absolute
2. Approach	Cosmo centric	Anthropocentric	Theocentric
3. Movement of spirit to free itself from nature delivers,	Anthropology	Psychology	Phenomenology
4. In the language of Spinoza	Matter	Mind	God
5. In the language of Kant	Rational Cosmology	Rational Psychology	Rational Theology
6. In the language of Hegel	The science of idea in its otherness	The science of Idea in and for itself	The science of Idea coming back to itself out of that otherness
7. In the language of BhagavadGita			
(i) Three Purusha (ch. 15)	<i>Khsara Purusha</i>	<i>Akhsara Purusha</i>	<i>Purshottama</i>
(ii) Three Prakriti (ch. 7)	<i>Apara Prakriti</i>	<i>Para Prakriti</i>	<i>ParamaPrakriti</i>
(iii) Movement of the Aspirant	<i>Karma Yoga</i>	<i>Jnana Yoga</i>	<i>Bhakti Yoga</i>
8. In the language of Vedanta			

RECONCILIATION: WEST AND EAST

Reconciliation of East and West! Where was the East and where was the West, asks Thomas McEvilley [35] before colonialism, imperialism and before the ruthless advancement of the desire to establish racial supremacy? In the ancient world, Indus valley civilization was said to be the matrix of three civilizations namely Greek, Mesopotemian and (?) Egyptian. Neither there was good transport nor communication technology as it is in the present. There was no fixed boundary of nations even. Moreover there were not nationalists in the narrow sense of its following. There were, however, free flow of thoughts and culture across all four civilizations, which had their own rational, non-rational and trans-rational documents of experiences. Sanskrit, like German, Latin and Greek was a rich Indo-European language prior to the Pre-Socratic Greek, the Thales of Miletus. The barrier between East and West is simply a recent discovery, a construct of mind infected with imperialism, colonialism, racism and most recently the scientism.

“But there is neither East nor West, Border, nor Breed, nor
Birth, when two strong men stand face to face,
though they come from the ends of the earth!”
- Rudyard Kipling

Is reconciliation necessary?

Certainly! Wisdom of both East and West has a common source, Consciousness. This reconciliation is necessary both for harmonization of knowledge from different sources and for ordered individuation in the globalised world. It is required for the totality of the process of acquisition of knowledge and skill, and also for complete fulfillment of the individual with appropriate attitudinal disposition. Reconciliation is necessary for reconciliation of top-down and bottom-up skills. This is also necessary for accomplishment of the *purpose* of evolution of the brain as an organ of consciousness.

Is reconciliation possible in practice?

In all likelihood the answer will be in affirmative. Reconciliation of two complementary approaches of mystics and scientists, east and west is possible when the rigid distinction between nature and consciousness is dissolved! The work might begin with an *assumption* that nature and consciousness are indissolubly wedded. There is no boundary but only a spectrum across transcendentalized nature and naturalized transcendental. There are autonomous operations interconnected, hierarchically nested but all within the ambits of systems science of “The Multiversity”.

In practice, this could be made possible when the mystic becomes a scientist and the scientist becomes a mystic. This presupposes conscious transcendence of death by the being while alive, a very difficult process indeed but not impossible to accomplish! This realization is likely to facilitate consolidation of the *Akhanda worldview*, which in turn admits co-evolution of Humanities, Science and the Spirit. Final recon-ciliation thus waits for emergence of those individuals who are both scientist and mystic by all parameters of brain functions. In developing the science for consciousness, we need in one person a spiritualist, a philosopher and a scientist. And, we need plenty of them.

Reconciliation has already started in the West, which might be complemented from the east.

Natural evolution of the brain is beyond the boundary of east and west. One can see the trend of movement in the west itself. We may start with the Philosophy of Mind as originated in the west with Copernicus, Galileo and Descartes. They took leave from the earlier prevalent philosophy by advocating a '*substance dualism*' meaning mind (consciousness) and matter (body) are two different substance altogether. The observation is practically relevant in the sense that the matter is amenable to senses and falls within the objective realm. On the other hand, mind/consciousness appears beyond the realm of senses and better comes under subjective realm. However, should we remain 'open' to only our 'senses' we land up becoming an advocate of *material monism* and in the extreme stage become an *eliminative materialist* (like Patricia Churchland). On the other hand should we ignore the senses and its domain the space time bound classical world, with a total tilt and emphasis on 'mind' only, we are labeled as *panpsy-chist*. As a group, both sides collapse the hierarchy on their respective side. Those who eliminate 'consciousness', in fact do it so by their brain consciousness (an example of *reductio at absurdatum*)! And a panpsy-chist excludes matter only by the activity of the 'matter' (I mean neuro-transmitters) in his brain!

It is Leibniz who emphatically propounded the view that there is a *pre-established harmony* between the two substances, mind and matter. However, the 'harmony' between the two substances could not be effected unless there exists a connection and interaction between the two. Mind (consciousness) and matter (body) are, therefore, connected to each other (cf., *Connectionism* of John Searle). And, they do interact (cf., *Interactionism*, e.g. Descartes). Their connection, according to Leibniz, is already established (pre-established).

Common mortals like us are not aware of this connection and inter-

action. As monkey's brain is not in a position to understand quantum physics, so the human brain is not equipped enough to understand consciousness. This is the view/propounded in *Cognitive closure hypothesis* of Colin McGinn. McGinn could be correct! But only partially! Since *evolution* of human brain is not yet complete. Ongoing process of evolution of the brain, however, rescues us from this blinding pessimism. The stem cells in the 'brain-marrow' could be a rich resource for renewal of the brain.

Mind and body do interact, may be occasionally (cf., Malebranche's *Occasionalism*), the interaction might be in the realm of *phenomenology* (cf., Husserl's *psychologism*). Whether they do or, they do not, it would be better not to abandon *positivism* (cf., Comte) and *behaviorism* (cf., B.F. Skinner) in any and all situations where one is able to quantify the stimulus/response relationship by measurable yardstick. In fact, this was the rationale adopted following the 'behaviorist's coup' in 1913. The approach seems most practical as long as the complex picture beyond the mindscape is not very clear. Beyond the realm of mind, the science is of quality and relationship, rather than of measurement and equation.

Following advocacy of the *Process philosophy* of Whitehead in the west and scientific openness to new ideas and thoughts to connect through the prevailing gaps, the scenario has changed considerably, particularly following 1980s. The humanities in general, and the scientists in particular, have been coming across attitudinal transformation with ongoing evolution in their brain.

The gap between two different 'substances' of Descartes is bridged now with interacting *field, energy, 'form'* and different kinds of *information*. In the course of processing of this variety of information, mind does resemble a 'computer', but only to a limited extent (cf., *computational models of mind*). That is to say that the mind, whether it arises out of function of the neurons (cf., *Functionalism*, Putnam, Neisser) or is a combined product of consciousness and functioning neurons, it does possess computable properties. Some of the computational functions of the mind, it seems, could be externalized with far more precision and time-economy as has been done in *Artificial Intelligence* or *Expert system*. Mind/Consciousness, however, has been found to have more skills and functions other than what have been mimicked or simulated in a computer or in an expert system so far. The expert system has access-consciousness (rather to say access to information), monitoring consciousness (rather to say monitoring information) and decision-making consciousness within the bounds of a large number of

probabilities. However, expert system developed so far has no hints of having self-consciousness, meta-self-consciousness and phenomenal consciousness. The probability remains high that in future more of such new skill/functions of mind/consciousness would be externalized in expert system taking help from the disciplines of neuroinformatics, informational geometry in the context of neuronal manifolds, different types of nonlocal communications and advancement in our understanding of 'life', which has supposed access to the sub-Planckian nature of dark energy and dark matter.

We trust on developmental possibilities in the human brain as well. The gap is likely to be filled up not merely through deep introspection (cf., *Introspectionism*) but through direct experience of the Reality and more in-depth research in phenomenology. This is likely to unravel the most private aspects/facets of 'self' (Thomas Nagel's *elements of subjectivity*) and the speculated connections between psychic mechanics and information mechanics.

This may warrant us to consider critically the state of informational openness of the brain across the cerebral cortex. When the transcortical information exchange between 'inside' and 'outside' of the brain achieves *harmony* (Leibniz's ideal), the evolutionary accomplishment of the brain as an organ is completed for manifestation of consciousness. At that time, mind and matter may work in an identical way (cf., *Identity theory*). The outcome is a kind of divine materialism, where there is an explicit layout of integration of consciousness mind and matter.

If not exactly 'identical', mind and matter might be considered at best as two facets of one coin. We are reminded of Spinoza's *Double aspect theory*, which states that mind and matter are two facets of the one and the same. Consciousness and nature represent the two facets of the one, not as in Samkhya philosophy but as a Biune Reality of Advaita Saivism.

In the Akhanda worldview there is a terrain, in between matter and mind, of elementary phenomena with operations of mind, information, informational memory and intelligence. Between mind and consciousness sandwiched is another terrain, the nest of Mother Nature, with operators like 'self' and 'life' ('life' has access to the domain of dark energy). At the micro level, cellular cognition could be a testable model, while at macro level the testable model is the brain itself. The brain is the 'play ground' and the meeting point of consciousness, mind and matter, self, life principle and information.

Final reconciliation, however, would wait till we could (i) develop a science for transcendence (of death) and (ii) connect different nests of nature through their respective but interconnected mechanics (iii) emergence of those individuals who are equally a scientist and a mystic.

How is reconciliation going to happen?

It requires a continued *education* program on the science of transcendence. Education is formally defined as the process of bringing desirable changes in the behavior of the learner in terms of knowledge, skill and attitude contributed respectively by the cognitive, psychomotor and affective aspects of the brain. The goal of education is to know the Truth, achieve the skill of Freedom and experience the joy of accomplishment/fulfillment, which in mystical version has been described as *Ananda*. Education on transcendence and the skill of projecting First Person's experience in Third Person's perspectives would facilitate reconciliation.

Is there any working Model?

Consciousness is the reality independent of any experiential or experimental realities. This is consciousness's ontological status. Consciousness could be known by what consciousness does. Consciousness has an operational mechanics. This is its epistemological perspective. The mechanics of consciousness is connected to nature's mechanics on the surface level, quantum mechanics and classical mechanics. The connection becomes effective only in accordance with the mutually agreed value-systems working in between its constituents. This axiology of invariants does not violate the status of ontological consciousness. Phenomenology of consciousness, i.e., not-happening, happenings and the set of happenings, like generation of self, life-principle, mind and information, and also of space, time and energy are subject to acceptance of this ontological status of consciousness and its axiological ramification. Creative phenomenology demands an absolute freedom, which is achieved by total submission, a complete 'surrender' to the axiology of consciousness. The phenomenology of consciousness requires approval, a sanction from the axiology emanating from consciousness's ontological status. There are, it is admitted, epistemic constraints to realize this agenda of consciousness within the brain. And, this fundamental epistemic constrain introduces perception of *uncertainty*. This is the reason the reality looks probabilistic in quantum approach to consciousness.

The model that we expect for a science of consciousness is non-reductive, holistic and without any boundary problem. To have models

accommodating autonomy within holism, pluralism without contradicting individual aspiration and that too all within the ambits of systems science is our aim. The present author has been working on this line since 1985 and the following few are his important contributions.

1. Supracortical Consciousness (an example of interface between systems-independent consciousness and systems (brain)-confined consciousness) [36,37,38].
2. Five-nests (Pentaune) model of nature-consciousness as depicted in *The Millennium Bridge* [39]. Classical mechanics, quantum mechanics, information mechanics, mechanics of 'life' and 'self' cascade to mechanics of consciousness.
3. A radical view of Information. Its nature and science [40, 41,42]. Information serves as the bridging operational agent between local and non-local domain.
4. The model connecting Systems neuroscience, systems psychology and consciousness [43], and the model connecting systems psychology with cell biology at molecular level [44].
5. Simplifying the complexity by identifying non-observable operators, their operations and hierarchically nested interaction within it [45]. Here we understand the pathway from signal to information, knowledge and wisdom and vice versa. Knowledge organization is a function of 'life' and it is possible because of 'life's supposed access to the domain of dark energy.
6. Communication between Systems-bound consciousness and systems-independent consciousness requires an extraordinary inter-phase constituted by five irreducible operators like consciousness, self, life, mind and information. How this narrative can be an important part of future science has been elaborated [46].

Where this reconciliation is likely to lead us?

(i) This reconciliation is to set the development of a much-desired science for consciousness as an open-ended process and (ii) would help and facilitate emergence of the individuals who could be designated as *First-Person-Universal* swimming comfortably in the *Inter-universal Essence*, an individual indivisible from the Whole (*Akhanda*), an individual who has the complete knowledge as well as skill and is having the required attitudinal disposition towards the service for the mankind. In the terminology of evolutionary process, this may mean emergence of a new species on this earth. We may call them *Homo spiritualis* emerging from present *Homo sapiens* [47].

Having known all that is possible, having acquired the leadership skill and attitudinal disposition towards philanthropic service, what one is prepared for? It is to serve and serve only. This is probably what Robert

Greenleaf, in 1971, called *servant leadership* in the context of management. The concept of servant leadership itself is very old in India and goes back to Bheeshma's dialogue with Yudhisthir in the Shanti Parva of the *Mahabharat*. It could also be found in the description of Governance in Kautilya's Arthashastra. In the second half of the 1990s the academicians picked up the idea as a possible synthesis in East-West leadership style for a globalized world. In the West, political leader such as Martin Luther King Jr. and Abraham Lincoln best symbolized this style in the past. In India, political leader like Mohondas Karamchand Gandhi has exemplified it. Huzur Dr. Prem Saran Satsanghi Sahab is a living example of such servant leader in Dayalbag Educational Institute. The individuals working locally and having the ability to communicate globally with knowledge universal is a servant leader. We need plenty of such servant leaders as Scientist, Humanist and Spiritualist.

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- “Sri Aurobindo thus stands as one of the great founders of integral spirituality and integral practice. All subsequent attempts at such integrative efforts must, I believe, at least acknowledge Aurobindo’s enduring genius and in many ways still unsurpassed efforts. His influence at home and abroad has been, and continues to be, enormous.” -
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