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Title of the Project: Models of Consciousness in Indian Philosophy and Science

Tenure of the Project: Five years

Short Summary:

This project is about a systematic study of the models of consciousness based on the available statements in Indian philosophical traditions and scientific disciplines. Through this study, different models of understanding consciousness will be presented and, wherever possible, correlated with each other to develop a holistic method to solve the complex aspect of reality. This study has profound implications not only for science and philosophy, but for all spheres of life such as society, culture, environment, business, politics, health care, education and day to day activities of individuals.

The nature of the consciousness has been agitating the minds of philosophers and scientists right from the dawn of human civilization. In Western intellectual traditions there have been various explanations but plurality of consciousness dominates over others. The concept of mind-matter dualism, conceived by Leucippus and Democritus, appeared in the seventeenth century in the philosophy of Rene Descartes who based his view of nature on a fundamental division into two separate and independent realms. The Cartesian division allowed scientists to treat matter as dead and completely separate from mind (consciousness), and to see the material world as a multitude of different objects assembled into a huge machine.

The philosophy of Descartes was not only important for the development of classical physics, but also had a tremendous influence of the general western way of thinking up to the present day. In scientific world the notion of organic, living and spiritual universe was replaced by that of the world as a machine and the world-machine became the dominant metaphor of the modern culture and civilization. This radical change was brought about by the new discoveries in physics, astronomy and mathematics known as the scientific revolution and associated with the names of Copernicus, Galileo, Descartes, Bacon, and Newton.

Galilio Galilei banned the study of consciousness from science and restricted it to the study of matter only, because matter could be measured and quantified. This method has been beneficial throughout classical sciences, but the rejection of the study of consciousness and obsession with quantification and measurement has also become detrimental. But this confined approach was rejected by Heisenberg and other modern scientists. They accepted consciousness as the key factor for understanding sub-particles. The role of observer and participator (as coined by Heisenberg and John A. Wheeler respectively) is all-known facts in quantum physics. Life Science, Biotechnology, Neuroscience and other scientific disciplines are taking equal interest in the study of consciousness. They have their findings too, but based on reductionism.

Now question arises that what is nature of consciousness? Is this the product of matter or the cause of matter? Is this plural or singular? Is mind and consciousness identical? Is consciousness changing or non-changing? Is this all-pervasive or confined? Is this beyond mind (as instrument) and language or within? Does consciousness play any role in knowledge process or is this knowledge itself and many others.

These questions are to be addressed. Though Scientists are trying hard to address all these questions, but subtleness of the nature of consciousness also questions the limitedness of prevailing reductionism. Heisenberg states: 'What we observe is nature itself, but nature exposed to our method of questioning.'

Indian Traditions are reflecting on consciousness for thousands of year right from the Vedic times. There are more than thirty philosophical systems which primarily deal with the study of consciousness. Vedanta (Upanishad, Brahmasutra and Bhagavadgita) is the first discipline to study consciousness and addresses all possible questions. It has also attracted a number of modern scientists such as Neils Bohr, Schrödinger, John A. Wheeler etc. to get acquainted with the nature of consciousness as mentioned there. Yoga, Buddhism and other systems of Indian philosophy have also contributed substantially in this area of research.

While many great scientists are raising questions regarding the method of classical science, the interdisciplinary research in this area will certainly help them to get innovative ideas to develop some alternative methods to overcome hurdles. Heisenberg rightly points out:

It is probably true quite generally that in the history of human thinking the most fruitful developments frequently take place at those points where two different lines of thought meet. These lines may have their roots in quite different parts of human culture, in different times or different cultural environments or different religious traditions: hence if they actually meet, that is, if they are at least so much related to each other that a real interaction can take place, then one may hope that new and interesting developments may follow.

Fritzo Capra, *The Tao of Physics*, Flamingo, London, 1991 p. 9

In the light of above background, this proposed research work aims to address all such relevant questions on the basis of available source material in Indian philosophy and sciences. This kind of research work will certainly go a long way to further interdisciplinary research. The lack of the knowledge of other disciplines lacks the original research work. India earnestly requires this kind of research work and can contribute a lot to science and humanity.

Present Research activities

Very few individuals and Science Institutes have done or are doing interdisciplinary research in the area of consciousness. Researches done in this area which proved to be a turning point are as follow:

1. Capra Fritjof, *The Tao of Physics*, Flamingo, London:1991
2. Capra Fritjof, *The Web of Life*, Flamingo, London:1997
3. Jitatmananda Swami, *Modern Physics and Vedanta*, Bharatiya Vidya Bhavan, Mumbai:2006

4. Jitatmananda Swami, *Holistic Science and Vedanta*, Bharatiya Vidya Bhavan, Mumbai:1993
5. Rajan M.A.S. (Editor), *Consciousness (Proceeding of the workshop held at Melkote during 16 – 18 June, 1987)*, The Academy of Sanskrit Research, Melkote:1988
6. Sarvabhutananda Swami (Editor), *Philosophy and Science: An Exploratory Approach to Consciousness*, The Ramakrishna Mission Institute of Culture, Kolkata:2009
7. Talbot Michael, *Mysticism and New Physics*, Bantam Books, New York:1981
8. Heisenberg Werner, *Physics and Philosophy*, Harper and Row Publishers, New York:1958
9. Heisenberg Werner, *Physics and Beyond*, Harper and Row Publishers, New York:1971
10. Schrodinger Erwin, *What is Life*, Cambridge University Press, London:2010
11. Schrodinger Erwin, *Mind and Matter*, Cambridge University Press, London:1967
12. Bohr Niels, *Atomic Physics and Human Knowledge*, Wiley, New York:1958
13. Nair Ranjit, *Mind, Matter and Mystry* (Ed.), Scientica Paperback, New Delhi:2001
14. Oppenheimer R., *Science and the Common Understanding*, Oxford University Press, London:1954

I am working in this area for some years. I am teaching a course titled *Scientific Enquiry and Consciousness in Sanskrit* in my School for M.Phil./Ph.D. students. At least five students have completed their research in the area of Indian philosophy and science under my supervision. Currently one researcher is doing Ph.D. in collaboration with the professor of Molecular Medicine, JNU on experimental science. I have also organized an International Conference on *Science of Consciousness, Psychotherapy and Yoga Praxix: Ancient and Modern Perspectives* in JNU during 24 – 26 September, 2012. The proceedings of this conference are already published. I also organized a series of five lectures of distinguished scientists on Indian Philosophy and Science in Sanskrit Week Celebrations from 16 – 20 August in 2011. I have delivered more than fifty lectures at different institutes and presented papers in national and international seminars/conferences on consciousness particularly in the area of Indian philosophy and science. My Ph.D. thesis which is under publication is on the study of consciousness in Vedanta philosophy. Some of my papers, related with the study of consciousness, published or under publication at national and international levels are as follow:

1. ***Upanishadic Science of Child Conception***, Proceedings of World Sanskrit Conference (held on 5-9 April, 2001 at Vigyan Bhawan, New Delhi), Volume 5, edited by Prof. Vachaspati Upadhyay and published by Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeeth (Deemed University), New Delhi, 2007.
2. ***Modeling Consciousness in Upanishads*** in a book titled '***Models of Understanding Consciousness***' published by the Centre of Advanced Study in Sanskrit, University of Pune, October, 2012.
3. ***The Upanisads – Schopenhauer's Solace of Life and Death*** under the book title ***Understanding Schopenhauer through the Prism of Indian Culture*** edited by Arati Barua, Michael Gerhard and Matthias Kobler, published by Walter de Gruyter GmbH, Berlin/Boston in 2013. ISBN 978-3-11-027149-2 and e-ISBN 978-3-11-027158-47
4. ***Exploring Parallels between the Philosophy of Upanisads and Daoism*** under the book title '***Brahman and Dao (A Comparative Studies of Indian and Chinese Philosophy and Religion)***' edited by Ithmar Theodor and Zhihua Yao, published by Lexington Books, United Kingdom in 2014. ISBN 978-0-7391-7172-1

5. ***Matter and Consciousness in Samkhya*** by Philosophy Department, Nava Nalanda Mahavihar, Nalanda during 28-31 January, 2014.(Under publication)

Objectives

Twenty first century research has transcended compartmentalized study and started interdisciplinary research with a vision to get innovative ideas and accordingly desired result. This ongoing research has following objectives to be achieved:

1. To bridge gap between Indian philosophy and science to understand consciousness.
2. To develop study material for researchers working on consciousness in Indian philosophy, Sciences, Sanskrit, Psychology, Ayurveda and other disciplines of learning.
3. To promote interdisciplinary teaching and research in the Department of Sanskrit, because Sanskrit is the treasure house of scientific and philosophical principles.
4. To help common people to improve his understanding of consciousness.
5. To provide inputs to scientist for understanding deeper aspect of consciousness.
6. To equip philosophers with scientific approach to see the reality in systematic and precise way.
7. To provide alternative method of understanding consciousness.
8. To help one to realize her/his true nature and get rid of fragmented worldview.
9. According to Vedānta, Supreme Consciousness is underlying and unifying principle in this pluralistic universe. This study of consciousness will help one to break the barrier of superiority-inferiority complex causing all types of ill-behaviours.
10. To help individuals to accept nature (Prakriti) as conscious-being and protect it as they protect themselves.
11. To prepare students to study the nature of consciousness across their disciplines.
12. To create interest in students for interdisciplinary approach through the study of consciousness.

Work Plan

In this research analytic and comparative methods will be applied. Texts related with consciousness in Indian philosophy and scientific disciplines will be identified, collected and studied. Concerned textual data will be extracted from the texts. As per the availability and nature of textual data (statements) chapters will be divided. Each chapter will be presented through proper analysis applying all tools of researches. Eminent scientists and philosophers (expert in Indian philosophy) will be interviewed to find the solution and bridge the gap between yoga-based experience and laboratory-based experiment. Reputed Institute of science and Indian philosophy will be visited and all useful inputs will be collected and incorporated. Reputed Research Libraries will also be visited and used for furthering this project work. Finally a consolidated and edited research material will be submitted to the authority.

The tentative time schedule for executing this project is as follow:

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| 1 st Year | Identification of Source texts and their procurement | Since this project involves more than two hundred books, primary and secondary source books will be identified and procured from different sources. In this process Libraries and Scientific Research Institute (National and International) will be visited. |
| 2 nd Year | Study of Source Texts and collection of Textual Data | After procuring source books, study will be started to identify concerned textual data, to extract them for specific study and to classify them for chapterization. Chapterization will be based on the nature of philosophical schools and scientific disciplines. Some of the chapters will be based on comparative study as per the availability of parallels between scientific and philosophical principles. The resultant researched material is supposed to be in two parts. The tentative titles of two parts are: Part I. <i>Models of Consciousness in Rational Traditions of Indian philosophy and Classical Sciences</i> and Part II. <i>Models of Consciousness in Intuitive Traditions of Indian Philosophy and Modern Sciences</i> |
| 3 rd Year | Chapter Writing | The writing of the First Volume will be completed. Chapters will also include the content of interviews of some eminent philosophers and scientists. This kind of field work (at National and International level) will be the essential part of the project in the third and fourth year. |
| 4 th Year | Chapter Writing | The writing of the Second Volume will be completed. Other aspects are the same as in the third year. |
| 5 th Year | Finalization of | A series of workshops with some of the eminent philosophers and scientists will be organized to share and finalize the prepared material of the project. After finalization, editing process will be started and an edited copy of the project will be submitted to the authority. |

Tentative Chapters

Part One

Models of Consciousness in Rational Traditions of Indian philosophy and Classical Sciences

1. Nature of Consciousness in the Philosophy of Leucippus and Democritus
2. Mechanical Model of Consciousness in Classical Sciences
3. Charvaka, Nyaya-Vaisheshika, Mimamsa and Jain Models of Consciousness in Rational Traditions of Indian Philosophy
4. Comparative Study of Consciousness in Rational Traditions of Indian Philosophy and Classical Sciences

Part Two

Models of Consciousness in Intuitive Traditions of Indian Philosophy and Modern Sciences

1. Nature of Consciousness in the Mystic Traditions of Greek Philosophy
2. Systemic Models of Consciousness in Modern Sciences
3. Vedanta, Samkhya-Yoga, Ayurveda and Buddhist Models of Consciousness in Intuitive Traditions of Indian Philosophy
4. Comparative Study of Consciousness in Intuitive Traditions of Indian Philosophy and Modern Sciences

Novelty of the Project

This project is novel in this sense that though efforts have been made to study the nature of consciousness by scientists and experts of Indian philosophy separately and consequently different models of understanding consciousness came into existence but no one has attempted to shed light on interdisciplinary aspect of understanding model of consciousness on the basis of philosophical data recorded in Sanskrit texts particularly in the area of Indian philosophy and their parallels in sciences. Scientists have tried and trying to develop their own model of understanding consciousness through reductionism. Indian philosophers have developed their own models of understanding consciousness by applying rationality and meditative approach. Now the time is to understand both of the models and correlate them for something new that can lead us to higher result for the welfare of humanity and other than humanity.

Expected Outcome of the Project

The following outcomes are expected to be met after the completion of the project:

1. A complete researched document of models of consciousness in Indian philosophy and sciences will come into existence.
2. Generally scientists lack in-depth study of philosophical principles recorded in Sanskrit language and unable to apply them in their experiments for overcoming hurdles. This research work will provide inputs for them and in this way they can make original contributions to scientific community. For example Gaia concept was picked up by scientist from Greek tradition and it was developed as Gaia Hypothesis to experiment whether earth is conscious? A similar concept of earth is available in *Prithivi Sukta* of Atharvaveda earlier than Greek, but no Indian scientist ever thought of taking up this issue for scientific experiment.
3. Through this research work, students of Indian philosophy and Sanskrit will get equipped with reductionist method and will start thinking whether consciousness can be measured and quantified?
4. Consciousness has different layers. A certain layer of consciousness can be understood by understanding certain model. This project will highlight the importance and application mode of scientific and philosophical models.

Fund Heads: (In Rupees)

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| 1. Equipments | 1000000/ |
| 2. Travel (National and International) | 1000000/ |
| 3. Field work and workshops | 3000000/ |
| 4. Contingency | 1000000/ |
| 5. Books and Journals | 1000000/ |
| 6. Research Associates and Fellows | 3000000/ |

Total Amount: 10000000/

(Rupees One Hundred Lakh Only)