

Paper Title: The Relevance of Scientific Conclusions to Religion

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Abstract:

The role of religion in modern scientific development is discussed with special reference to *Vedas* and *Upanishadas*. Thoughts of the eastern mystics are of importance to study General Relativity and Quantum Theory. The science-religion dialogue in context of recent developments in modern science is the focal point of the paper.

Biography:

T. H. Date, Ph.D. is presently President of Indian Academy of Industrial and Applicable Mathematics, Pune, India. He was Tilak Professor of Applied Mathematics at University of Pune. His specialization is Relativity, Gravitation and Cosmology. He has published papers in various national and international journals like *GRG Journal*, *Physics Review*, and *Astrophysics Journal*. His interest is in Science and Spirituality.

Paper:

Introduction:

We are fortunate to live in an age that had wonderful combination of science, technology, religion and values. Antagonism between science and religion is coming to an end. Scientific progress helps to develop understanding between different religious concepts. There is a convergence of values pertaining to various religions towards universal values. It is essential for both, east and west, to work together to promote spiritual understanding for scientific achievements and to add religious values. Nobel Laureate, Dr. Richard Ernst, in Second Millennium Lecture at Indian Science Congress 2000, held at Pune University, cautioned against indiscriminate pursuit of science. He expressed that the eastern schools of thought such as Hinduism, Buddhism, Jainism and Sintoism, contend essential treaties, which guide whole world for co-existence with nature. He said “India is in a unique position to provide leadership in several such aspects. Science and humanity need to co-exist”. Swami Vivekananda, Yogi Aurobindo, my spiritual guru – one of the great mystic-philosopher of the twentieth century Prof. R. D. Ranade and many other eastern mystics opined similar views. Science together with Mathematics, Philosophy and Vedanta will explore the complex nature of reality. The ultimate reality (*paratpar satya*) of the universe and transcendental truth (*aanteem satya*) are focal points of both science and Vedanta. Mystic views of eastern mystics match with scientific views of scientists of the 20th century. In future, it will be possible to promote growth of scientific knowledge by such views.

Vedic and post-vedic works and schools of Indian philosophies form the basis of the scientific conclusions to religion. Religion here is any religion. Vedic and post-vedic scientific traditions helped to arrive at the ultimate truth and in terms of the nature of physical and quantum reality. Yoga practices addressing Self/Soul, consciousness, ego, intellect, mind and senses are most useful to unravel the mystery of the universe. How can one verify a subtle form of conscious energy with material tools of science? This is one of the most profound and intriguing question, which needs spiritual understanding.

Swami Vivekananda claims that religion is nothing but science of transcendence. He says [1], “There is no conflict between science and religion both have the identical claim of helping man to grow in spirituality of ushering in a better social order which alone can provide him with stimulus to total Life-Fulfillment.” The Vedanta expounded by Vivekananda as the synthesis of head and heart, of the classical and the romantic in the human heritage. The erstwhile tendency in modern education to treat the humanities and the science as mutually exclusive disciplines is giving place to the Vedantic awareness that they are complementary to each other.

Nature of religious beliefs:

Religion is concerned with establishing the validity of certain way of life, developing certain attitudes towards the life and expressing the union with God or Supernatural Being. It consists of external and internal reality, which tells something that one has not discovered and makes man believe that the universe is such as to satisfy his aspirations. Conservation of vibrant and pulsating values is the main concern of the religion and values which in turn lead to reality through consciousness.

Does religion make sense in its basic concepts and processes if beliefs are unintelligible to modern man? Does religion make sense in understanding the rational attitude? Religious belief is inculcated in humanity. Most of the religions have common belief. Social structure is maintained by religious belief. Difference of opinion regarding it, depends on the experiences and give rise to different disciplines. Modern scientific conclusions have brought out changes in religious beliefs.

The Vedas, the Holy Koran, the Bible, the Dhammapada, teachings of Mahaveer or Granthasaheb all these different religious books show us a common thread of human values and beliefs. An appeal to the conscience is an important factor in the religious values. Science has a rational approach towards establishing facts while religion is concerned with establishing the validity of a certain way of life and developing certain attitudes towards all that is. Scientific attitude creates belief in reality and eradicates blind faith (*andha-shradha*). Science enhances conscience and concludes the facts which appeal to every ones conscience.

In Indian context the meaning of science (*shastra*) is synonymous to learning (*vidya*), knowledge (*jnana*), art (*kala*), and specific differential knowledge (*Vijyana*). It is a natural term from the root *sash*, means to govern, preside, manage and control. Technically it means science in totality. It has a source in:

Tatva: basic principles, abstractions and all pervasive,
Shastra: proper scientific theories, formulae, equations, and derivatives,
Prayoga: experiment and application,
Vyavahar: daily life situations and practical implications.

Science and religion have a common goal of culminating a view of ultimate reality. In Indian context there is no antagonism between science and religion. The conflict between science and religion is the result of personal thoughts trapped in the attachment and envy. Because, in the reality, the conflict is not so much within their possessors. Famous statement of Einstein [2] about science religion interface is: “Science without religion is lame and religion without science is blind.” Einstein also felt the importance of mysticism. He said [3] “The most beautiful and most profound emotion we can experience is the sensation of the mystical, it is the sower of all true sciences. He to whom this emotion is a stranger, who can no longer wonder and stand rapt in awe, is as good as dead. To know that what is impenetrable to us really exists manifesting itself as the highest wisdom and the most radiant beauty which our dull faculties can comprehend is their most primitive form... This knowledge, this feeling is the center of true religiousness”. In spite of this view about mysticism, Physics was Einstein’s main concern. I quote Abraham Pais [4] “Physics remained at the center of Einstein’s being in the final decade during which he concentrated exclusively on unified field theory and on questions of principle regarding the quantum theory.” Einstein was positivist and was under the intellectual influence of Ernst Mach, a major advocate of positivism in physics. As a forerunner of logical positivism Mach said [5]: “Science may be regarded as a minimal problems consisting of the most complete presentation of facts with the least possible expenditure of thought”.

Erwin Schrodinger, world famous Physicist, won Nobel Prize in 1933. During postwar world, war turmoil and suffering, Schrodinger studied European and Eastern philosophy extensively, propagated by Goethe’s friend Schopenhauer, who regarded himself as a true spiritual descendant of Kant and Hegel, and who use to keep Hindu scriptures at his bedside. His writings on Vedanta, Upanishads and Buddhism directly influenced Schrodinger. He thought deeply about the teachings of Hindu Scriptures and ultimately came to believe in them. Perhaps Eastern wisdom stimulated Schrodinger when he made his great discovery of wave mechanics and found the reality of Physics in wave motions. He thought that the reality he found was part of an underlying unity of mind and soul. He did not achieve a true integration of his beliefs with his actions. The Bhagwad Gita describes three paths to salvation: the path of devotion, the path of works, and the path of knowledge. Schordinger followed the path of knowledge. He remained *Mahavit*, a person who knows the theory but has failed to achieve a practical realization of *Atmavit*, knower of *Atman* (soul).

Science Religion Dialogue:

Science – religion dialogue is gaining importance in context of present developments in modern science. Job Kozhamthadam has rightly pointed out that the science religion dialogue is the need of the day. He says [6]: “The climate of the relationship between

science and religion has changed considerably in recent times: from state of estrangement it has moved to one of the constructive engagement. This has come about, because of a number of developments: in science, in the philosophy of science, and in religious thinking and attitude.”

Heisenberg’s views support this argument. He says [7]: “The great scientific contribution in theoretical Physics that has come from Japan since the last war may be an indication of a certain relationship between philosophical ideas in the tradition of the far east and the philosophical substance of Quantum Theory”.

From the end of 19th century and the beginning of 20th century, scientific growth has been awesome. Sir J. J. Thompson’s discovery of electron in 1897, Max Plank’s discovery of radiation in 1900, Leonard’s discovery of photoelectric effect in 1905, Einstein’s five papers on light quantum, Brownian motion, and Special Theory of Relativity in 1905 revolutionized the basic concepts of Physics. Development of Quantum Theory by de Broglie, Schrodinger, Max Bohr, Max Planck, Heisenberg, and Dirac and General Theory of Relativity by Einstein forms two different approaches of universes - micro and macro. General Relativity suffers by singularity and Quantum Theory has a measurement problem. By these theories, scientific conclusions to religion are becoming more relevant. What remains to discover is the grand unification of science and religion.

Scientific discoveries are exactly the conclusions of Vedanta philosophy enshrined in the Upanishadas and countless other Vedantic texts. Big Bang in relation to the origin of the universe and related theories in religious books find some similarities. The scientific dogmatism of the west regarding unification of the theories pertaining to both science and religion can be explored with help of Vedantic truths. The Uncertainty principle, Conservation of Energy, Space, Time and Motion are the common basis of science and Vedanta. Complexity of the universe, the entropic principle, and various types of realities are important points of discussion. Mathematics provides proper expressions and forms for conformation of scientific discoveries. Physics provides size, shape, form and figure while mathematics deals with these attributes. Bertrand Russell, George Cantor, Kurt Godel, Hilbert etc developed new Mathematical theories useful for scientific theories and vice versa. Fuzzy logic, Fractals, M-theory, String theory and twister theory form the basis of Modern Physics. Some of the controversial realities claimed by mathematicians differ from “real reality” that lies behind the external appearance of the world we live in. Shortly after the COBE results were announced, the claim about the reality theory was ruled out. However the proponents of this theory quickly mounted a counter attack and the matter became controversial.

To what extent science is reached? Western scientific development is mostly objective. Science in general and physics in particular was once considered to be a branch of philosophy in the west. Henry Margenau expressed his views about development in Physics and Philosophy. In his book [8] he said “...that man engaged in the development of physical theory can profit from philosophical reflections about the meaning of their research and that the modern physics holds a message for philosophy”.

Space, Time and Matter:

Nature of space, time and matter needs General Relativity, Quantum Theory and spirituality to realize their salient features. Their foundation will be strengthened by mystic approach and better insight will be gained in understanding the nature of space, time and matter. The conclusions of modern science and religion throw some light on the concept of space, time and matter. The awesome veneration for space and time has been continuous and has been continuously developed. Charles Lamb says [9]: “Nothing puzzles me more than time and space and yet nothing puzzles me less as I never think about them.” From eternity, space and time had been greatest mystery faced by philosophers and scientists. Paul Davies says [10] “Space and time are simply there, an arena in which the world plays out its endless Drama – permanent, dependable and immutable”. Newton was explicit about space and time – absolute space and absolute time. He conceptualized time which flows equably without relation to anything external. Space, too, was for centuries regarded as immutable and fixed. Absolute space in its new nature, without relation to anything external, remains always similar and immovable. The first dent to the age old concept of treating space and time as separate entities is due to Einstein. To understand space and time Great Grand Unification (GGU) between science and spirituality can be achieved by Vedic and modern scientific trends. Holistic approach through yogic practices (operational level) and Vedanta (transcendental level) can be considered for such GGU.

Conclusion:

In search of ultimate building blocks, it is difficult to venture into the world of the ultimate small or big. Though Modern Physics has been universally successful scientific method in describing phenomenon at different levels, unified field theory is yet unresolved. Understanding of the Universe has been deepened to such an extent that it becomes a formidable task to comprehend it further. A number of new theories emerge every now and then for resolving unified field theory. The modern theories about structure of matter, galaxy formation and origin of the universe are revolutionized by the observations made by new techniques. Modern Physics has reached a new height and now cannot be kept separate from religion. It is connected with meta-physics. Swami Vivekananda expressed that Modern Physics has to accept mystical approach. He says [11] “Physics is bounded on both sides by meta-physics”.

By considering Physics, Bio physics and metaphysics we state that which is true on physical level, in physical terms and concepts, correspondingly be true on bio-physical level in bio-physical terms and concepts and further be true on metaphysical level in meta physical terms and concepts.

References:

- [1] *Complete Works of Swami Vivekananda*, Adwait Ashram, Calcutta, Vol. 8, 1977.
- [2] Pais A., *Subtle is the Lord ... the science and the life of Albert Einstein*, Clarendon Press, Oxford, 1982.

- [3] Einstein A., *My View*, Rupa Publication, Calcutta, 1967.
- [4] Pais A., *Subtle is the Lord ... the science and the life of Albert Einstein*, Clarendon Press, Oxford, 1982.
- [5] Pagels, H., *The Cosmic Code*, Bantam Books, New York, 1983.
- [6] Kozhamthadam, J. (Ed.), *Contemporary Science and Religion in Dialogue*, ASSR Publication, Pune, 2002.
- [7] Heisenberg, W., *Physics and Philosophy*, Harper & Row publications, New York, 1958.
- [8] Margeneau, H., *The Nature of Physical Reality*, McGraw Book Company, Inc., 1950.
- [9] Hawking, S., *The Universe in a nutshell*, Bantam Books, New York, 2001.
- [10] Davies, P., *The Age of Infinity*, Penguin Books, Oxford Univ. Press, England, 1981.
- [11] *Complete Works of Swami Vivekananda*, Adwait Ashram, Calcutta, Vol. 7, 1977.