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EDITORIAL

THE DALAI LAMA—HIS ENCOUNTER WITH SCIENCE



In one of my earlier editorials I had written about our Palampur visit, which was unforgettable for many reasons. The most memorable and rewarding event was our visit to Dharamsala—the place where the present Dalai Lama established his centre to protect the interest of the Tibetan people after he came into exile in 1959. It was the

kindness and courtesy of Dr. P.S. Ahuja, Director of IHBT (Institute of Himalayan Bioresources Technology) that this sight-seeing trip to Dharamsala and McLeod Gunje was arranged. Instead of merely making it a tourist day-out, we decided to utilize this trip to visit the monastery of the Dalai Lama, to meet him and to request him to contribute to our journal *Science and Culture*. On arriving there we learnt that His Holiness had come back to Dharamsala from abroad only that morning and chances of getting an appointment with him was a remote possibility. While I was ready to come back with a disappointed heart, the journalistic instinct of Samarjit Kar (Editorial Advisor of the journal, who passed away on July 5, 2013) prompted him not to give up so easily. He insisted on meeting the Secretary of His Holiness and pursuing him to give us an appointment. We could not finally meet the Dalai Lama but left a note with his Secretary about our journal *Science and Culture* and a request to contribute an article from his wisdom in science, religion and philosophy with our readers. Little did we realize then that this note will be returned with a gift of his book “*The Universe in a Single Atom: The Convergence of Science and Spirituality*” wrapped with his blessings (a facsimile of his blessings written in his own handwriting is presented in the box) to the readership of the journal along with a permission to reproduce excerpts from the book in the journal.

According to him, his book “*The Universe in a Single Atom: The Convergence of Science and Spirituality*” is not an attempt to unite science and spirituality but to explore the connectedness of these two seemingly disjoint disciplines. Science helps to alleviate the suffering of mankind at the physical level, to keep us happy within the material world around us. But to overcome our psychological and mental sufferings and to be mentally happy what we need is the cultivation of human values—and this is where spirituality comes in. From this point of view, there is no conflict between science and spirituality as both are needed to be happy in the true sense. This book tries to explore both the seen and the unseen parts of the world and to get a holistic view of the world around us. The Dalai Lama believes that ‘spirituality and science are different but complimentary investigative approaches’ contributing together towards expansion of knowledge and wisdom to understand the truth’.

Born to a peasant family in one of the remotest places on earth and educated in the Tibetan ways of Buddhist teaching, one could be forgiven to wonder how the Dalai

English translation of the hand-written blessings of His Holiness The Dalai Lama :

*With prayers and good wishes at all times,
Shakya Monk,
Dalai Lama
23 August 2012*

Lama could understand the intricacies of modern science, discuss the inner meaning of relativity, quantum mechanics or cosmology with leading scientists of the world including Nobel Laureates. How *could* this happen? In his own words “I was never myself trained in science. My knowledge comes mainly from reading news coverage of important scientific stories in magazines like *Newsweek*, or hearing reports on the BBC World Service and later reading textbooks on astronomy”. His thoughts on science were so deep that he tried to go beyond the usual implication of science to understand how science influences ethics and human values. This book is a “result of that long period of thinking and of the intellectual journey of a Buddhist monk from Tibet into the world of bubble chambers, particle accelerators and fMRI (functional magnetic resonance imaging)”. We noticed a similar kind of mental richness in only one other savant with no formal science training yet who grasped the essence of science through reading books and magazines, interacted at an equal pace with eminent scientists like Einstein, Bertrand Russell: Rabindranath Tagore.

The Dalai Lama’s encounter with science has an interesting history. As a young boy he discovered a collapsible brass telescope from amongst the possessions of the Thirteenth Dalai Lama and used it to peer at the night sky, learning the names of stars and constellations from his attendant. Other items of interest inherited by him were a pocket watch, two film projectors and three motor cars of the Thirteenth Dalai Lama. His curiosity to know the unknown prompted him to dismantle the pocket watch completely and reassemble it meticulously to make it working again. In his own words “I mastered this process well enough to become the principal repairer for a number of the people I knew who owned watches or clocks in Lhasa”. At the age of ten, he with the help of some others, fixed one of the film projectors and watched numerous newsreels, reels of coronation of King George VI, Shakespeare’s *Henry V* and some of Charlie Chaplin’s silent movies. Inspired by his success in dismantling watches and repairing the projector, his next project was to understand the mechanics of an automobile. For this he befriended the driver and caretaker of the cars so as to be him to inspect the inside of the car while it was being repaired and eventually learning how to drive. One day his sense of adventure prevailed and he took out one of the Baby Austins for a drive, but met with a small accident and broke the left sidelight. He managed to find a replacement with a clear glass but the original one was a frosted one. He used his ingenuity to reproduce the light’s frosted appearance by covering it with molten sugar. According to him his fascination of science began with technology, and

he did not see any difference between the two. Even now, a plastic model of brain with labelled, detachable parts adorns his desk to learn more about mind and consciousness whenever he gets opportunities to meet scientists.

The philosophy of science amalgamated with the teachings of Buddhism taught him to apply reasoning to understand everything. This instilled in him an openness to acknowledge any thing that is reasonable and has been proven, even if it is in contradiction with the scriptural explanation that has held sway for many centuries or with a deeply held opinion or view. In fact Buddhism accords the greatest respect to experience, with reasoning next and scripture last. Lord Buddha himself did not accept anything in his life until he realized it himself and he instructed his followers not to accept his teachings on the basis of reverence to him but with reasoned examination and personal experiment. Science also teaches us that all truths must be demonstrated either through experiment or by scientific proofs and not by reverence to the work of great scientists of the past.

The Dalai Lama’s first science teacher was Carl von Weizsäcker, a German nuclear physicist turned social scientist, who was a student of a Nobel Prize winning physicist Werner Heisenberg. The Dalai Lama received some formal tutorial sessions from him to understand quantum mechanics and its philosophical implications. Weizsäcker insisted on the importance of empiricism in science. “Matter can be known in two ways’, he said, “it can be phenomenally given or it can be inferred”. For instance, a brown spot on an apple can be seen with the eye; it is phenomenally given. But that there is a worm in the apple is something we may infer from the spot and from our general knowledge of apples and worms. This philosophy is very much in common with the Buddhist philosophy which also puts the empirical method of direct observation first, and then accepts or rejects it on the basis of reasoned inference.

After Weizsäcker, the Dalai Lama’s greater depth in science came through interactions with another great physicist David Bohm, a student of Robert Oppenheimer. According to the Dalai Lama “David Bohm was the greatest intellects and most open minds I have ever come across”. He mentioned that “my long discussions with Bohm over two decades fuelled my own thinking about the ways Buddhist methods of inquiry may relate to those used in modern science”. In contrast to scientific reasoning, the Buddhist way of empirical reasoning includes both meditative states as well as evidence obtained from senses. However, the process of reasoning can neither be uniquely

Buddhist nor uniquely scientific, because process of investigation and reasoning essentially originate from the basic activities of human mind which we naturally employ on a daily basis.

David Bohm insisted on conducting scientific enquiries through thought experiments. It can be mentioned in this connection that most of Einstein's work on the theory of relativity were conducted by such thought experiments. This method of enquiry has close parallels with the Buddhist way of philosophical thinking. According to the Dalai Lama, "on numerous occasions Bohm and I explored the ways objective scientific method may relate to meditative practice, which is, from the Buddhist point of view, equally empirical".

His encounter with the philosopher Sir Karl Popper, whom he considers 'one of the greatest minds of the twentieth century', led him to understand the role of the method of inductive and deductive logic in the postulation and proof of scientific hypothesis. Deduction, opposite to induction, is a method of arriving at a particular truth from a generalization obtained by some means, whereas induction is the method to arrive at some form of generalization from a series of observed phenomena. As an example, we relate smoke with fire by the method of induction from the generalization obtained from observations that smoke always originates from fire. On the other hand we deduce that any car made in 2011 is Bharat Stage III compliant from our general information that emission norms have forced manufacturers to adhere to this standard after 2010. The reasonings in science and Buddhism differ in sophistication. Reasoning in Buddhism, like all other classical philosophies, is strongly based on logic in a particular context, while scientific reasoning is supported by mathematics and the correctness of arguments is clearly understood from the correctness of mathematical equations.

The Dalai Lama gained tremendous knowledge in

science from his voracious reading habit and by interacting with various scientists, philosophers, doctors and other men of intellect. He examined and analysed his own knowledge of teachings of Buddhism and other classical scriptural knowledge, assimilated completely and was able 'to explore issues of deepest significance for our contemporary world'.

Carl Sagan, the astronomer and reputed science writer once remarked that in science it often happens that scientists change their mind with new results or good arguments and say 'my position is mistaken'. He continued "I cannot recall the last time something like that happened in politics or religion". The Dalai Lama, one of the greatest spiritual leaders, proved Carl Sagan wrong with his profound knowledge in science and openness in mind when he said "if scientific analysis were conclusively to demonstrate certain claims in Buddhism to be false, then we must accept the findings of science and abandon those claims".

One would be amazed looking at the names of the chapters in this book 'Emptiness, Relativity and Quantum Physics', 'The Big Bang and the Buddhist Beginningless Universe', 'The Question of Consciousness', 'Towards a Science of Consciousness', 'The Spectrum of Consciousness' etc.

The Dalai Lama convinces us once again that knowledge is universal, it has no beginning or end, it is continuous without any boundaries; it is we who have arbitrarily created compartments with our inadequate wisdom like science, arts, philosophy, theosophy and others.

We publish in this issue an article on the big bang and the beginningless of time and space and hope to reproduce some more excerpts in the near future. We hope our readers will enjoy reading this work. □

S. C. Roy

A Note from the Editor-in-Chief

Change is the force of life. Change is the law of nature. By the time the next issue of this journal reaches your hand, you will start noticing changes around you. You will see trees near you have started shedding their leaves and new leaves have started sprouting. You may notice changes in the direction of the wind, welcoming the warmth of spring to the winter of experience. You will see changes in the structure of the Editorial Board from the next issue onwards, and may experience a new taste and flavour.

I have relinquished my responsibilities as Editor-in-Chief despite stiff resistance from the Council of ISNA, but will remain associated with the journal in the capacity of Editorial Advisor. I am grateful to our readers, contributors, scientists, Council and well-wishers for their long standing support that has enabled the journal to reach its current level and am confident that the new Editorial Board will continue to receive similar support from you all to scale even greater heights.

Thank you and wish you all a Very Happy New Year.