SCIENCE & SPIRITUAL QUEST

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आ नो भद्राः कर्तवो यन्तु विश्वतोऽदब्धासो अपरीतास उद्भिदः । (RgVeda) *Let noble thoughts come to us from every side*

Science-Spirituality Dialogue
Divine Inspirations in Scientific Discovery

A Discussion with
Prof. Charles H. Townes (right),
Nobel Laureate in Physics and
Dr. T. D. Singh (left);
Physical Organic Chemist,
Founding-Director of Bhaktivedanta Institute

Dr. T. D. Singh: I always wanted to ask you one personal question. In the history of scientific discovery, many brilliant scientists have described how they have come up with original ideas for their particular scientific discovery. For example, the famous mathematician Gauss said, "Finally two days ago, I succeeded, . . . like a sudden flash of lightening, the riddle happened to be solved. I myself cannot say what the conducting thread was which connected what I previously knew with what made my success possible." Your discoveries of the laser and the maser have resulted in tremendous benefit for humanity. I am wondering whether you encountered any sudden and divine inspirational vision at the time of your discovery.

Prof. Charles H. Townes: Yes! Nobody knows where the new ideas come from. We really don't. They are like revelations. I will recount my own experience in the invention of the laser and the maser. I had been working hard to get shorter wavelengths. Specifically, I was thinking about it for a long time and tried many ways but could not succeed. I was the chairman of the national committee for trying to find out the possibilities. We were having the last meeting. I woke up early that morning. I was upset at the thought that we were so far not successful. We tried many ways. Suddenly the idea came - that it is possible by using non-thermal molecules. If instead of having thermal equilibrium, if more molecules are in the higher state than in lower state, one can obtain an inversion condition. And we can amplify this way. Then I wrote it down. That was the moment of inspiration. Yes, true! Where did the idea come from? I had thought and tried hard to get a broad idea. Then suddenly it occurred and I would like to say that the inspiration came from God.

Dr. T. D. Singh : I am extremely happy to hear this exciting account. You must have experienced at the time of discovery a feeling of great satisfaction. The Vedantic

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"There is indeed, within each of us, some kind of an independent 'self' with its own responsibilities ... whose actions are not attributable to inheritance, environment, or chance.

— Roger Penrose
Nobel Laureate in Physics

To Know about Life, Matter, and their Interactions is called Knowledge

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literature of India explains that such sudden inspiration comes from *Paramātmā*, an expansion of Supreme Lord Who guides every living being from within. By the way, what is the role of a non-thermal molecule that came to your mind or appeared in your vision at the time of this momentous discovery?

Prof. Charles H. Townes: Thermodynamics says that a gas molecule cannot radiate more than a certain amount of energy depending on the temperature. But we can change the gas so that instead of having thermal equilibrium, more molecules are in the higher state and fewer in the lower state, and light can then be amplified. When I saw how to do it - it meant avoiding thermal equilibrium and collecting many atoms in the higher state. And I saw a realistic way to make this to work. The idea suddenly occurred. It was a revelation in that sense.

[Excerpt from the book, *Savajiñānam* Vol-2 — *Scientific Exploration for a Spiritual Paradigm*, Bhaktivedanta Institute, Kolkata]

On the Shoulder of Giants

Srila Baladeva Vidyabhushana

(The Savoir of Gaudiya Vaisnavism)

Srila Baladeva Vidyabhushana is known as one of the most illustrious spiritual preceptors in the *Gaudiya Vaishnava* school of *Bhakti Yoga*. He is best known for the most celebrated work -- *Govinda- Bhashya* commentary on the *Vedanta-sutra* and thus established the *Gaudiya Vaisnava sampradaya's* authenticity. Hence, Srila Baladeva Vidyabhushana revered all over the world as the protector and savoir of Gaudiya Vaisnavism.

Except the fact that Baladeva was born in the early part of the 18th century AD near Remuna village in Odisha, very little is known about his childhood. At a very early age, Baladeva became fluent in Sanskrit, logic, grammar, rhetoric, and poetry. Then, he traveled to Udupi, Karnataka and learned the *Madhva shuddha-dvaita* commentary on the *Vedanta sutras* and began living in a *Tattvavadi* monastery. Accepting the renounced order at a young age, Baladeva started travelling to different places for preaching the philosophy of *Madhva Sampradaya*.

During his travels, Baladeva visited Jagannath Puri, where he met Radhadamodara Dasa (the grand-disciple of Rasikananda, a seventeenth-century preacher who had established the Gaudiya movement throughout Orissa.) Under his tutelage, Baladeva studied Srila Jiva Goswami's, *Sat-sandarbhas* (Six Sandarbhas) --- the most important philosophical treatise of *Gaudiya Sampradaya*. He also learned that Sri Caitanya Mahaprabhu, the chief proponent of *Gaudiya sampradya*, had not presented any commentaries on *Vedanta-sutra*, for He considered *Srimad-Bhagavatam*, written by the same author—Vyasa—to be the natural commentary. So from the *Bhagavatam* and by His example, Sri Caitanya Mahaprabhu taught that we must serve the Supreme Lord, Krsna, and absorb ourselves in hearing about Him and glorifying Him.

Baladeva was greatly impressed and convinced of *Gaudiya Vaishnava* philosophy's supremacy and received initiation from Radha Damodar Goswami. Abiding by his teacher's instructions, Baladeva traveled to Vrindavana to continue studying Gaudiya literature under Srila Vishwanath Chakravarty Thakur.

At this time, in the court of the king of Jaipur, the followers of the *Sri Sampradaya* school of *Vaishnavism* raised objections on the authenticity of the *Gaudiya Vaishnava* school. As a result, the king invited Srila Vishwanath Chakravarty Thakur for a

Srila Baladeva Vidyabhushana

debate. Having taken a vow of never leaving Vrindavana's land and due to old age, Vishvanath Chakravarty Thakur sent his student, Baladeva, to resolve the issue.

Despite producing all the historical references and explanations, the priests said the Gaudiya's were inauthentic because they had no commentary on the *Vedanta-sutra*. To end all the controversies and doubts once and for all, Baladeva boldly announced in the assembly that he would soon produce the Gaudiya school of commentary on the Vedanta Sutra. He then went straight to Govindapura, presenting himself before Lord Govindaji to seek his blessing to fulfill his teacher's desire. That night, in the dream, Baladeva had the divine vision of Lord Govinda, assuring him that the Lord Himself will write the commentary through Baladeva's pen. Being so inspired, Baladeva completed the arduous task of writing the commentary on the *Vedanta Sutras* in a fortnight, expounding on every aspect of Gaudiya worship and *acintya bheda-abheda tattva* (the philosophy of simultaneous oneness and difference of living entities with Lord Krishna). He named the commentary as *Govinda-bhasya* — the work inspired by Lord Govinda.

The king and the followers of *Sri Sampradaya* were astounded by such an authentic and eloquent commentary. Thus *Gaudiya Vaisnavism* became known as an authorized disciplic succession. Baladeva was bestowed the title 'Vidyabhushana' or one whose ornament is knowledge in honor of his outstanding scholarship.

Upon returning to Vrindavan, he continued to live a simple life of servitude and devotion to the supreme Lord, devoid of any desire of name, fame, or position. However, after the departure of Vishvanatha Chakravarti Thakura, the devotees took shelter of Srila Baladeva Vidyabhushana to uphold the legacy of Sri Chaitanya Mahaprabhu. He continued to write commentaries on ten principal *Upanisads* and works of the Vrndavana Gosvamis. Some of his prominent literary work includes *Siddhanta Darpana*, *Vedanta Samantaka*, and *Prameya Ratnavali*. In the year 1768, at the ripe age of ninety, Srila Baladeva Vidyabhushana departed from this world on the auspicious festival of *Vijaya Dashmi*. His *samadhi* is situated behind -Sri-Radha-Shyamsundar Temple, Sevakunj, Vrindavan.

Srila Baladeva Vidyabhushana's life and works enlighten humanity about the Absolute truth and the transcendental nature of life. He says, *jivo bhagavadaso mantavyah dasabhuto harereva nanyasyaive kadacaneti padmat (Vedanta-samantaka 3.11)*. Meaning: "The constitutional nature of the *jiva* or soul is to become the eternal servitor of Supreme Personality of Godhead, and has no other genuine position.

Vedanta & Science

Free will — Inherent Quality of Life

The Sāṅkhya philosophy in *Śrīmad-Bhāgavatam*, about the science of life says that three transcendental elements make up the "body" of this eternal *jīvātmā*. They are: *sat* (eternal), *cit* (consciousness) and *ānanda* (happiness). Free will is part of *cetana* -- the transcendental element called *cit* or conscious element. Just like in science we work with axioms. Similarly we have to accept that life has free will, that is an axiom of life.

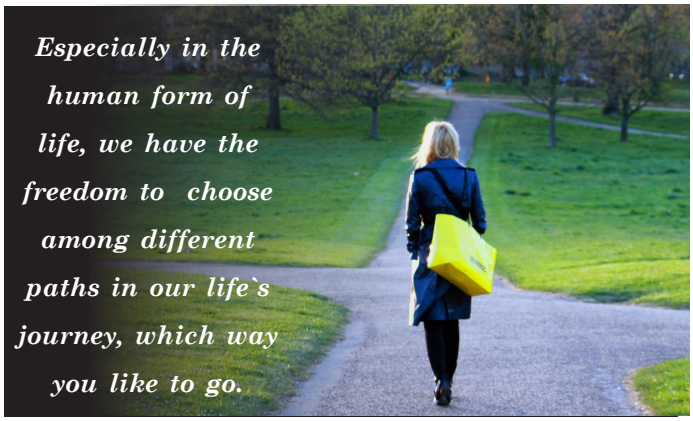
If somebody asks the difference between life and death, then you can say very convincingly that, you see, life has free will, especially in the human form of life. But non-life has no free will. This is one of the differentiating qualities of life. Not surprisingly in science and particularly in physics you hear people say that there is no room for free will in physics. So that contradicts. But when you ask the scientists — the physicists— "well, you have some choice, don't you?", Then everybody says, "yes I have." But physics doesn't have that free will. This is one of the important dilemmas in science.

Krishna says in *Bhagavad-gītā*

iti te jñānam ākhyātaṁ guhyād guhyataraṁ mayā
vimṛśyaitad aśeṣeṇa yathecchasi tathā kuru

Meaning: Thus I have explained to you knowledge still more confidential. Deliberate on this fully, and then do what you wish to do.

In the beginning Arjuna was reluctant to fight in this family war. He was worried, "how shall I kill my teachers, my relatives, my grandfathers? How should I fight with them, because I'll be very sinful if I kill them". Therefore he decided not to fight. When Arjuna was in that mood, Lord Krishna started explaining what is the purpose of life, what is the most important thing to be done. Lord Krishna was explaining to Arjuna the whole science of life, what is the nature of life, what is the purpose and what is the ultimate goal. And after explaining the whole thing then Lord Krishna said, "My dear Arjuna, now I have explained to you what is right and what



is wrong, now you please decide. Whether you like to fight or not to fight, it is up to you." The Lord does not interfere with our little free will. So our individual identity is very important. We are individual beings. We have been existing in the past, we exist now and will also continue to exist in the future. The *ātmā* or soul that is temporarily captured within this body is ever existing.

This human form of life is regarded as the most important form of life as in this life we have this choice; we have the freedom to choose among different paths in your life`s journey, which way you like to go. Either we like to engage our free will properly or we like to misuse our free will.

It is like if you are at the cross section of a road and there are many roads leading to different directions. Therefore you have that choice, according to your desire to reach a destination you can choose a certain road. If we do not use our free will properly then we may get entangled or we may get difficulties in this very lifetime and also in the lives to come. On the other hand, if the free will is used properly then we can transcend this material nature and get a spiritual body for a complete spiritual life. This is called self-realization i.e. one gets the understanding about the nature of life. And when one gets a spiritual body one actually goes to the spiritual world and one does not come back to this material world anymore. Therefore this free will is an important principle and in fact free will is one of the inherent qualities of life.

[Excerpt from the book, *Sripada in Switzerland*, Bhaktivedanta Institute, Kolkata]

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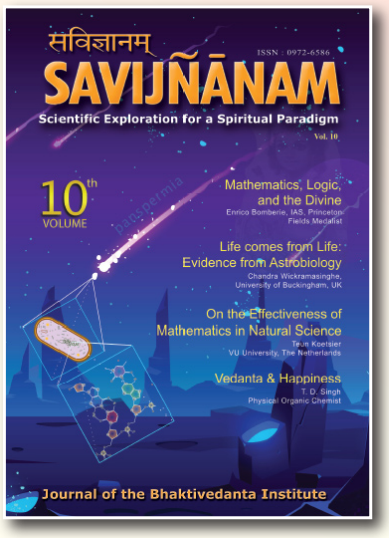

SAVIJÑĀNAM (Vol-10)

Scientific Exploration of Spiritual Paradigm

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- **Life Comes From Life: Evidence From Astrobiology - Concordance With Vedic Thought**
  Chandra Wickramasinghe, Honorary Professor, University of Buckingham, UK
- **On The Effectiveness Of Mathematics In Natural Science**
  Teun Koetsier, Department of Mathematics, Faculty of Science, VU University, Amsterdam, The Netherlands
- **Vedanta & Happiness**
  T. D. Singh, Founder Director, Bhaktivedanta Institute, Kolkata & Founder President, Vedanta And Science Educational Research Foundation

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Announcements

Webinar Series on "Science and Spirituality"

Organized by
Bhaktivedanta Institute Bhubaneswar
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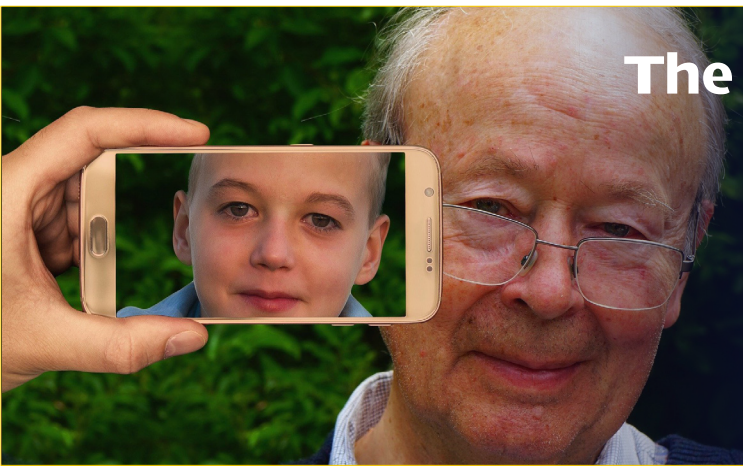
Inspiration: Flash of Knowledge

Speaker: Mr. Sushant Sharma (Alumus IIT Guwahati)
Zoom Id: 84513533984 (password: 939951)

Date: 24th October 2020
Time: 5:30 pm -7:00 pm



The Aging Paradox — Reversible or Conquerable?

Speaker: Dr. Jayanti Ranganathan Chavan,
President, Dr. T. D. Singh's Institute of Science and Religion

Zoom Id: 84513533984 (password: 939951)

Date: 31st October 2020
Time: 5:30 pm -7:00 pm

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