

Swami Vivekananda: Bridging the Cartesian Divide of Science and Religion

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The Cartesian Divide

It has become a truism for people, down to the prattling babes, to denounce religion in comparison to science. To many, of them religion seems to have no scientific base, and to many others, these two appear mutually exclusive. It matters little that most of them have no idea of what religion is, or for that matter, how science truly works.

Of course they cannot be blamed entirely for the misconception. If Newton, Einstein, Abdus Salam, George Salmon, Pascal, Bhaskara, Aryabhatta and many other great mathematicians and scientists had respect for their traditional religions, then we have Laplace, Richard Feynman, Stephen Hawking, Richard Dawkins and a horde of other scientists who either aggressively ridiculed the idea of religion, or politely shrugged off any mention of the "R" word.

The beginning of the divide between science and religion may be attributed to Rene Descartes (1596-1650), who brought in the concept of the Cartesian divide through his X-axis and Y-axis. It was through this divide that people started looking at matter and mind, God and the world, science and religion, as eternally separated.

The atrocities on the scientific greats like Giordano Bruno and Galileo by the church did not help matters, and thinkers like Voltaire added to the growing discord between the two. By the time Newton came on the scene, God had become a "hypothesis" for Laplace, the French mathematician.

That is how the tradition of the Cartesian divide between religion and science continues.

Swami Vivekananda, the prophet of the present age, tried to bridge this divide. It is through his works that one can feel the underlying unity between the two. During his stay in the West, he met and impressed with his views many leading scientists and inventors including Nicholas Tesla, Hiram Maxim (inventor of machine guns), Lord kelvin Kelvin and many several other great thinkers with his views.

Religion and Science: A Closer Look

Mundaka Upanisad categorises knowledge into two: Intuitive knowledge about God (para vidya), and Practical knowledge of the world (apara vidya). According to this, anything other than the intuitive knowledge about God (spirituality) belongs to apara vidya, i.e. sciences. Even the knowledge of the scriptures belongs to sciences only, since they talk about going to heavenly places, which are nothing but extensions of this world only. It implies that the true meaning and purpose of religion is to make a person divine, and everything else in religion is secondary.

But can science make one divine? Going by the present definition of science, this seems difficult, since science is all about the world, and religion is all about transcending the world in its entirety. Science teaches us how to turn the wheel of the world, while religion teaches us how to stop our inner wheel. So, no advancement in science can ever encroach upon the realm of religion.

With this idea clear, we can have a closer look at the paths taken by science and religion.

Their Approaches: The crucial difference between the approaches of science and religion lies in science being reductionist ("Whole is equal to the sum of its parts"), and religion being holistic ("Whole is more than the sum

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of its parts"). Who is right, is a big debate that has been raging on since the times of Aristotle, or even earlier. Science depends on models, which it keeps fine tuning tunes from time to time to adjust the new data and findings. However, the goal of religion is not to explain the universe, but to take an individual to God. Naturally it does not require a model to explain God. Rather, it uses a fixed model to explain the universe to maintain its peace of mind.

It is a fact that religion mixes spiritual truths with religious myths to produce a potable concoction for the masses. So what? Science also mixes facts with scientific myths! Without propagating these myths they will fade away from public memory, and their funding will stop. For example, the timing of Big Bang, birth of the universe etc. are the most entertaining scientific myths of modern times. It is interesting to read "decisive" statements from the high priests of science on these topics. Similar are the cases that we read about regularly in newspapers regarding researches that conclude with "This may lead to...".

Methods of Knowledge

Scientific theories are developed in two ways:

(A) Reaching a conclusion through a string of successively derived statements from starting theorems, known as axioms. These axioms can be arbitrary, or even absurd, though mutually consistent. When we say that science is born of logic and reasoning, we forget that there are limitations of reasoning processes, which are the mechanisms of proofs and theorems of science. Kurt Godel proved mathematically the limitations of mathematical reasoning, and Wittgenstein and Wittgenstein argued that both language and thought have definitive limits.

Religion, on the other hand, is never axiomatic, and never derived, nor thought out. Masters speak only what they experience themselves. So, if we declare the experiences of a pure mind to be wrong, then what right we have we to consider the perception of an emotionally coloured mind correct?

(B) The second method used by the scientists is to relate

observed phenomena through a theory. In most cases, however, these theories are not laws but mere models, which undergo a change once different kind of data comes in. For example, the universe of Newton and Einstein was definitive, while the universe of quantum physics is probabilistic.

And, how does religion gain its knowledge?

There is a near total misconception about this even among the scientists. In general, they think that religion and religious perception is about extra sensory perception. This idea is completely wrong. ESP, and all other such hocus-pocus may be anything, but it is not religion. These are mere attention grabbing antics by the clever.

Every religion has its roots in the transcendental experience of a mystic, prophet or the founder of a religion. When these great teachers of humanity give up all their worldly connections and desires, and when they outgrow the need of feeding the senses, their mind becomes pure and crystal clear. It is then that they experience the light of God. Hinduism describes this state as transcending the mind, since in this state the mind does not function the way we understand it to function. This state is popularly known as samadhi (or, transcendence), and the knowledge gained in this state cannot be questioned by those who live in gross worldly state. Being of the nature of fullness, this knowledge does not evolve with time. Only when a person has gained the knowledge of pure consciousness (or God) in this state, he becomes truly competent to talk about God.

So, while science evolves from good models to better, religion does not have to evolve because it does not offer theories based on observed facts. Every religion is firmly entrenched in the intuitive knowledge of God, as described by its masters, and hence it develops its explanations of the world and its affairs backwards from what the masters experienced in the depths of their meditation.

Here it may be mentioned that it is not the job of religion to explain anything of the world. To bring peace to the mind of its followers, religion does get into explaining

things. However, it does so simply because the right teacher of the related subject (science, geography, sociology etc.) has not yet taken charge.

Scientists raise questions at the superconscious realisations of the sages, in which they got the knowledge not through their senses, but through something beyond. Yet these very people seem to forget that many famous inventions and discoveries of science belong to the realm of sheer instinct, which is a much lower version of intuition. For example, knowledge came through chance (Dynamite by Alfred Noble; antibiotic by Flemming), in dreams (Kekule' Benzene structure, Watson's double Helix of DNA structure), and intuitive flashes, after the whole scientific onion was peeled off.

Religions in general, and Vedanta in particular, rely on the validity of pratyaksha pramana (Sense Perception), and anumana pramana (reasoning) - the two tools that are essential for scientific growth. Acharya Shankara, the great exponent of Vedanta, repeatedly asserted in his commentaries that the validity of direct perception cannot be negated by even a thousand scriptural utterings.

The third method of knowledge is known as shabda pramana, which is about the knowledge gained through the words of scriptures. The ideas about God, soul, rebirth, creation etc. cannot come through direct perception, or through reasoning, hence one must depend on what the sages have said about these. After all, the sages had no ulterior motive to mislead people, and they had the purest of pure character, along with a supremely incisive and brilliant mind.

The real strife between science and religion lies exactly on this point. Science won't accept scriptures as the valid source of knowledge, nor would religion give up the scriptures.

Interestingly, scientists keep swearing by "the sages of science" belonging to their own generation! And even when these "wise" are proved wrong, the scientists of the generation refuse to accept their own new prophets! And, they call religious people bigoted!!

Creation, Life after Death etc.: Creation is a difficult issue both for science and religion. People want to know

wherefrom we have come, and where we are going. The most popular answer by the religious is that "we came from God, and we are going back to God." And, the popular reply of the present day science to this question is "we come from big bang, and are going towards big crunch."

The Vedas also took up the issue, and came up with two hymns, *Purusha Suktam* (RV X.90) and *Nasadiya Suktam* (RV X.129). The first one takes up creation as having come out from, and by, Purusha (God). The second one takes up the concept of the subtle becoming gross, and then acting on itself. It is thus that *Prana* (the cosmic energy) hammers at *Akasha* (The the finest first particles) to produce gross matter, and the universe.

Every model of creation in Hinduism, excepting the *ajataavada* (the philosophy that there is no creation), can be boiled down to these two hymns.

Swami Vivekananda was fascinated by the concept of creation given in *Nasadiya Sukta*, where it says **आनीदवातं स्वधया तदेकं**, "the only one that there was, hammered itself to bring out the creation". From this, Swamiji developed the concept of *Prana* (energy) and *akasha* (matter) coming out of the same substance, and these two being one in the *dyu loka* (electric sphere). The great scientist Nicholas Tesla was fascinated by these ideas of Swamiji in 1896, and it would wait for another 10 years for Einstein to work out independently the equivalence of matter and energy in his now famous equation, "e equals m times c squared".

Interestingly, who was ridiculing Einstein for finding out the grand unifying principle of nature? You guessed it. Scientists of his generation!

The same *Nasadiya Suktam* throws up its hands in despair at the impossibility of finding out the truth behind creation and concludes with:

को अद्वा वेद क इह प्र वोचत् कुत आजाता कुत इयं विसृष्टिः

But, after all, who knows, and who can say Whence it all came, and how creation happened? The gods themselves are later than creation, So who knows truly whence it has arisen?

This standpoint of inexplicability of creation is accepted by every religion and religious philosophers. Their most

common answer is that "it is God's will", which essentially means "I don't know the answer".

Acharya Shankara comments that if the goal of the scriptures had been to describe creation, then all of them would have described exactly the same thing, which is not the case. According to him, the one and only one aim of every scripture is to teach a man his divine nature.

If such is the case, then why ridicule religion for its ideas on creation, heaven, hell etc.? People want to know the answer of many riddles of life. But, if he goes on speculating on all this, he will be lost forever in the maze of the inexplicable. So to save the lost, tormented, or curious souls, religion comes up with a simplistic, soothing and satisfying explanation. If the illiterate but believing millions take these answers for the scientific truth, then it is not the fault of the religion.

One Time Creation? A lot of confusion between science and religion is caused by the concept of one time creation, popular in Semitic religions. When scientists say that they do not believe in God, they essentially mean to say that they do not believe in a Creator God, who set the world in motion at some point of time. According to Biblical calculations, creation took place sometime in 4000 BCE. Even Newton added his bit by calculating the dates in the Bible and came up with the conclusion that creation took place in 4032 BCE!

But is it conceivable that the Infinite God will create something that is hopelessly limited in time and space? Well, only naive can believe that. Many Western thinkers, including Immanuel Kant, refused to accept this kind of schoolboy theology.

Hinduism goes a step further, and comes with a fully developed idea of cyclic creation in nature. According to it, infinite number of universe is being created, destroyed, and exist at any given point of time.

The idea of multiverse and cyclic creation has just started seeping into science, which suffers from a Semitic mindset, and hence has no idea about how the Indian minds tackled the issues which were born of the idea of infinity in religion.

Rationality: Is religion rational and consistent? The fact is that science assumes axiomatic truths (which may prove false), while religion begins with the words of Masters (which have never been proved wrong). It is indeed unfortunate that many go to the extent of telling that spiritual masters are liars, since there is no proof of what they say. Yet, they cannot disprove the spiritual experiences.

Religion, particularly Vedanta, is fully consistent, does not suffer from inner contradictions, brings meaning in life, and is universally applicable. If this is not being scientific, then what is?

To give an example, we can look at the problem of infinity as seen by the Vedic sages. They came up with the idea "*purnasaya purnamadaya purnam eva avasishyate*" - which means that when infinity is taken away from infinity, it leaves infinity as residue. And, this was spoken at least 10,000 years ago!!!

Interestingly, religion has contributed *Syadvad* (which leads to probabilistic outcome) of Jainism, and *Neti - Neti* (The the process of negation) of Vedanta, which are two very powerful tools of reasoning.

Commenting on the role played by religion in the development of science, Freeman Dyson wrote, "Western science grew out of Christian theology. It is probably not an accident that modern science grew explosively in Christian Europe and left the rest of the world behind. A thousand years of theological disputes nurtured the habit of analytical thinking that could be applied to the analysis of natural phenomena. On the other hand, the close historical relations between theology and science have caused conflicts between science and Christianity that do not exist between science and other religions...."

However, religion is not bothered about the problems of infinity, or in problems involving evolution or creation. It is interested only in finding out the true meaning of existence.

The Issue of Consciousness: The various religious philosophies have tried to harmonise the world of "Physics" and what lies beyond it in the form of "Metaphysics". One of the popular explanations is by Samkhya philosophy, according to which the world of

experience evolves from Prakriti through Mahat (cosmic intelligence), and Ahamkara (cosmic ego). But Prakriti is inert, while Purusha (soul) is pure consciousness.

But what is pure consciousness? How can one know it?

Sri Ramakrishna uses the analogy of ten pots of water which are reflecting the sun in the sky. With the actual sun in the sky and the ten reflected sun, there are a total of eleven suns. Now when the pots are broken down one by one, the number of suns goes down. When only one pot remains to reflect the sun, we have two suns left. But when that last pot is broken, then how many suns are we are left with?

Those who have not read Vedanta, they will invariably come up with "one" as answer, and most of those who have studied Vedanta will come up with "it cannot be expressed", "; although rare, a few of them would understand what the answer means or implies!

This is what *Taittiriya Upanisad* expresses as *yato vachonivartante....*" the speech fails, along with the mind, to grasp Atman".

In this confused understanding lies the deep divide between religion and common sense, and even most religious preachers hardly understand the issue. And yet, every siddha experienced exactly this very thing, but had to express the experience in different terms because of the limits of our language and understanding.

Consciousness is that which wills, feels and commands. It is eternal, and unchangeable. It is beyond being the subject, or the object of any action. It is not the intelligence of the mind, but mind acts as the great reflector of consciousness. Everything other than pure consciousness belongs to the realm of Prakriti, the nature - both internal and external.

Thus, the entire world of science belongs to the realm of Prakriti, while metaphysics aims at taking a person beyond it, to the state of pure consciousness, which is also Existence-Intelligence-Bliss.

But, will science agree to this dismissive attitude of religion? Never. According to it, the intelligence that we see around us is a mere evolutionary product of matter.

Referring to this the great chasm between religion and science on this issue, Swamiji said, "Every religion has the idea that the universe comes out of intelligence. The theory of God, taking it in its psychological significance, apart from all ideas of personality, is that intelligence is first in the order of creation, and that out of intelligence comes what we call gross matter. Modern philosophers say that intelligence is the last to come. They say that unintelligent things slowly evolve into animals, and from animals into men. They claim that instead of everything coming out of intelligence, intelligence itself is the last to come.

"Both the religious and the scientific statements, though seeming directly opposed to each other are true. Take an infinite series, A-B-A-B-A-B, etc. The question is-- which is first, A or B? If you take the series as A-B, you will say that A is first, but if you take it as B-A, you will say that B is first. It depends upon the way we look at it. Intelligence undergoes modification and becomes the gross matter, this again merges into intelligence, and thus the process goes on. The Sankhyas, and other religionists, put intelligence first, and the series becomes intelligence, then matter. The scientific man puts his finger on matter, and says matter, then intelligence. They both indicate the same chain. Indian philosophy, however, goes beyond both intelligence and matter, and finds a Purusha, or Self, which is beyond intelligence, of which intelligence is but the borrowed light."(CW 1.252)

In fact, this effort at the grand unification between the discordant notes of religion and science, is a great contribution by Swamiji.

God's Will

The dichotomy of "free will" and "God's will" is nothing new for the mankind. Since the dawn of spiritual wisdom, the battle between the two has been going on inconclusively. While for most people "God's will" invariably means "I do not know," or "I do not want to take the blame", the philosophers and scientists belonging to the materialist school of thoughts do not believe in the "Divine" at all. For them events follow a pattern either due to chance or due to "free will". The belief of these thinkers is best summed up in the words

of Archimedes, "Give me a lever long enough and a place to stand, and I will move the world."

How does Vedanta look at the issue?

According to Vedanta, Brahman alone exists. In its impersonal aspect, it is pure Existence-Consciousness-Bliss, and in its personalised aspect it is perceived as God who is the controller of all things, external and internal. The differentiation that we perceive around us in the form of living and inanimate objects, is mere play of name and form, caused by the Lord's inscrutable power, known as *maya* or *Shakti*. It is due to this power that God appears to have higher and lower nature. The lower nature of the Lord consists of gross and subtle matter, while the higher nature is pure Spirit, or Consciousness. The living beings are a combination of both lower and higher nature, while non living things are plain lower nature of God.

When it comes to mind, Vedanta is emphatic that it is the highest and the most subtle form of matter. Now, anything that has been created belongs to the universe, and hence has to follow the law of cause and effect. This implies that mind has to obey the laws of causation. In fact, if thoughts were not produced by preceding thoughts, and mind did not follow a pattern, it would cease to be rational. Even our desire to eat or drink is dictated by the demands of the body, which again is governed by strict laws of nature. And, we cannot say that the mind is bound by laws and at the same time also free.

The mind being matter, it is not conscious but it catches the reflected consciousness from Atman and appears to be conscious. It is something like the illuminated glass of a tube light when electricity passes through it.

The mind is not a mere reflector of consciousness but is also tied with the ten sense organs (not the physical eyes, ears etc., but the subtle organs that reside in the brain). After getting the light of intelligence from the mind, these sense organs start straining to be one with their respective objects. This is when desires in the form of attachment and aversion for objects are born in the mind. This is when the individual will, popularly known as "free will", is born. But because mind is not free, the will also can never be free, and hence there can never be a "free will". Talking about this, Swami Vivekananda

said, 'It (free will) means nothing-- sheer nonsense'. What we think to be "free will", is only the mad dance of the senses for their respective objects, powered by the presence of Atman.

Just as it is impossible for an object to move unless some force acts on it, similarly mind too being only matter, it requires something else to make it work. This impulsion is caused by the *antaryamin* (inner consciousness, which is Atman) that resides within every being. When a person does something, he does it through the medium of his mind aided by his senses, but his acts are made possible only because of the presence of *antaryamin* within him. And these acts are governed by a clear set of laws known as the laws of karma. Just as laws of science are a codification of the laws that govern matter, the law of karma is the set of rules that governs the working of the mind.

When a common man looks at the world, he feels that the mind has a freedom of its own, while a religious Hindu sees the law of karma acting upon a person. But a saint sees the working of *antaryamin* (which in essence is God Himself) behind every act of a being.

The popular concept of God is someone who seems to be sitting high above somewhere in the heavens, with probably a super-super computer, and controlling the acts of every being through his trillions and trillions of commands every nano second (a rough estimate). Even if this concept be true, the problem of His partiality for the lucky ones in the world continues. Theologians may break their head explaining the relationship between judgement, mercy and "all his will", but even a child can see that these cannot be reconciled. How can He punish us for what He has ordained for me? How can there be such foul disparity in the world? All the answers that we get are plain naive. No wonder people are becoming atheists.

God of Vedanta is different from such popular concepts. He is pure consciousness, and is the impelling force at the micro and macro level in the form of individualised soul (*antaryamin*) and *Prabhu* (the Lord of the universe). We act because He is residing within us, but that consciousness is mediated by the mind, which is coloured by the defects of affection and aversion of the sense organs for their objects. This makes our personality irresponsible. To use an analogy, the mind mostly acts

like a runaway engine which has its full power supply, but has lost its brakes and steering.

Atman is the *antaryamin* in every living being, and by its very nature of being pure consciousness, it is Brahman itself. Again, God is the personalised aspect of Brahman in this manifest universe, so there is an inherent identity between *antaryamin* and God, although they are not the same. The conscious principle behind the universe is God, while the conscious principle behind an individual is *antaryamin*.

So at the micro level, whatever we do, the source of our acts is Atman only. And at the macro level, He is the mover of energy itself, which makes the world go. Naturally, not a blade moves without His will!

A pure desireless mind is a perfect reflector, from which the defects of like and dislike are gone. A person with such a mind is one with God. Whatever he does or says, is the true will of God, uncoloured by the defects of his mind. That is why it is said that pure mind, pure intellect and pure consciousness are one and the same thing. The goal of life is to free one's mind of impurities which come to it because it wants to have only what it likes and loves of this world. This cleansing can take place only by following what the masters have said. This cleansing is known as "making one's own destiny", for it increases one's inner power by making a good reflector of his mind. It is then that the infinite potential of a person bursts forth. It is then that he acquires true "Free will", which is one with "God's will". He now becomes free, and also realises that "God" alone does everything, for, he is now non-different from God. This is freedom, this is *jnana*, this is *bhakti*.

Bridging the Divide

In the Mundaka Upanishad, we come across this great question that has troubled the human mind for thousands of years:

शौनको ह वै महाशालोऽङ्गिरसं विधिवदुपसन्नः पप्रच्छ ।
कस्मिन्नु भगवो विज्ञाते सर्वमिदं विज्ञातं भवतीति ॥ ३ ॥

-- The sage Shaunaka asked Angirasa, 'Sir, what is that by knowing which one knows everything?' And, as one can guess, the answer given by the Upanishad is, "by knowing the self, everything else is known".

Many wrongly interpret this to mean that the knower

of atman becomes all knowing (*sarvajna*) in the worldly sense. But that is not the case. The meaning is that if a person wants to know about the possible forms that a substance, say gold, can take, then there cannot be an end to that knowledge. There would be infinite number of forms, shapes etc. However, if he realises that all the ornaments are gold only, then by knowing the characteristics of gold, he would know all that is worth knowing about the various ornaments.

But, that is what science is also trying to do. Talking about this, Swami Vivekananda said, "Science is nothing but the finding of unity. As soon as science would reach perfect unity, it would stop from further progress, because it would reach the goal. Thus Chemistry could not progress farther when it would discover one element out of which all others could be made. Physics would stop when it would be able to fulfil its services in discovering one energy of which all the others are but manifestations, and the science of religion becomes perfect when it would discover Him who is the one life in a universe of death, Him who is the constant basis of an ever-changing world. One who is the only Soul of which all souls are but delusive manifestations.

"Thus is it, through multiplicity and duality, that the ultimate unity is reached. Religion can go no farther. This is the goal of all science. All science is bound to come to this conclusion in the long run." (CW: 1. 14)

It matters little what we call that state of unity, but the fact remains that the goal of all knowledge, philosophy, science, religion, and in fact the goal of all endeavours is to find that unity. Consciously or unconsciously, we are all moving towards that grand unification only.

At the more practical level, one has to know that there is no Cartesian divide between the two, and that by opting for the right balance between religion and science, one can bring a high level of synergy in life.

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