

## *Science or Religion*

There was no science as such before 16<sup>th</sup> century but there was plenty of religion. Religious authorities were the governing bodies in societies and tribes who controlled every aspect of lives of human being long before the dawn of civilization and also long after that. The conflict between science and religion has evolved slowly when thinking men risked their lives to question the authority of the vendors of religion and provided logical interpretations based on cause and effect. The history of modern civilization is cluttered with conflicting arguments on the existence of God and the need for a religion. Most early scientists and philosophers lacked the courage of their convictions and sold packages of 'science and religion'. But it transpired at later days that while all Holy Scriptures promoted goodness and helped warding off evils, the science of nature, quoted in these scriptures, were at odds with facts and logic and did not hold water under real scrutiny. Perhaps it is wrong to subject faith with scientific scrutiny. This is what the debate, at present, has come to end up - 'Science or Religion'. I give a chronological account of the debate amongst the thinkers and luminaries, over past millenniums as follows.

We take a ride in a time machine starting from somewhere in Europe at the middle of the 16<sup>th</sup> century. The religious fervor in Europe, particularly in Italy was at its peak then. The Christian world was run by Popes in Rome and they ran the empire by decrees based on the dicta in the holy Bible. The scripture said, in no uncertain term, the world that the believers inherit is firmly static and the other heavenly bodies, like the sun, the moon etc. moves around it. It was obvious to the likes of popes and other mortals, but not to Copernicus and Galileo Galeli. To uphold the scientific truth Galileo had to spend many years in prison by a decree from the highest authority in the land, the pontiff himself and he died as a house prisoner with very little rights and freedom prisoner at his own home. We must thank God for Galileo; otherwise we had endured living on a boring flat earth, permanently anchored in space. But Galileo, the father of the modern science, was a deeply religious man, believing firmly in God, but not, of course, in every word in the Holy Scripture or some interpretations of quotes in there. The surprising thing is that, many centuries have passed and a lot of water has flown under the bridge, but the bridge 'between God and Man' still survives.

We arrive at the 17<sup>th</sup> century. In England, Sir Isaac Newton, a Cambridge professor, created a landmark by propounding the theory of motions of objects. At that period of time the people lived on a spherical earth which was moving around the sun as postulated by Galileo. Newton applied his theory of motion and explained how the celestial objects, including our earth, move around the sun. He was a devoutly religious man, so much so that he declared that God's hand was holding the solar system. His authority in scientific world was so great that it took nearly a century to question his interpretation of the nature of light as a stream of corpuscle or the inadequacies of his theory of motion and his accretion that God was holding the heavenly bodies. The world had to wait for the introduction of quantum mechanics to replace Newton's classical mechanics to account for the pitfall in his theories and the flaw in his faith. But his theory worked well and was applied in science and engineering for over a century for the benefit of humanity, despite his faith in religion as described in the scripture.

We move towards the 20<sup>th</sup> century and stop for a while to read what was written on the walls of German cities. Lo and behold! The writing on the wall was a proclamation by the 19<sup>th</sup> century German philosopher, Friedrich Wilhelm Nietzsche and it read, 'God is dead' a quote from his book, 'gay science' which was also repeated in the book, 'thus spoke Zarathustra.' His authority and convincing power was so great that the whole of Europe reverberated with the echo, 'God is Dead'. We restart our journey following the brief pause and before long we come across writing on a different wall. This one was quoted to be by God, declaring, 'Nietzsche is dead'. Nietzsche did die physically but God lives, so does Nietzsche.

When the debate on the nature of light was at its peak at the end of the 19<sup>th</sup> century, the heavy weights like Paul Dirac, Neil Bohr, Werner Heisenberg etc met in Copenhagen and worked out an interpretation for resolving the duality debate on the nature of light. This resolution, famously known as ‘Copenhagen interpretation’, accepted that wave and particles need not be taken so literally as to make them mutually exclusive concepts for the nature of light so much so that it has to be one or the other. They devised a mathematical formalism called, ‘quantum electrodynamics in short ‘q.e.d’. It was based on probability and a phantom ‘wave function’ and Schrödinger’s equation. It explains the behaviour of light and other elementary particles and their interactions with each other. Albert Einstein did not join the ‘interpretation party’. In his dying days he commented, “I have been trying to know the nature of light for last two and a half decades. The ‘qed’, based on statistical randomness, provides only a superficial resolution to the debate, the truth lies deeper”. This ‘randomness’ in the behaviour of elementary particles (constituent of the Universe) and quantified by Heisenberg’s uncertainty principle, compelled Einstein to make the famous remark, “God does not play dice” In his 1949 book, ‘The World as I See It’ he wrote: "A knowledge of the existence of something we cannot penetrate, of the manifestations of the profoundest reason and the most radiant beauty, which are only accessible to our reason in their most elementary forms—it is this knowledge and this emotion that constitute the truly religious attitude; in this sense, and in this alone, I am a deeply religious man. Einstein believed in an abstract and impersonal God following the concept prescribed by the great 16<sup>th</sup> century Dutch philosopher Benedict de Spinoza. Einstein used the terminology, ‘God’ and the deterministic principle and expressed the thought that true nature of matter is beyond the apprehension of human mind, perhaps he shied away to admit the fact that –only God knows the truth of nature.

We now come to the middle of the 19<sup>th</sup> century. The world, particularly, the Christian world was stunned by the publication of the origin of species. In that Charles Robert Darwin demolished the concept of the creation of man in the scriptures and the holy Quran and propounded the theory that man evolved from monkeys. Darwin had a non-conformist background, but attended a Church of England school with the aim of becoming a clergyman. He went to the University of Cambridge for the required BA degree, which included studies of theology and natural history. Thank God he did not become a priest, instead he became deeply interested in the writings of William Paley a great English philosopher, on the question of the existence of God based on the so called, ‘teleological’ argument. In essence it may be explained by the following sentence. If, for example, an intelligent being from outer space lands on earth and find a watch, he or she will automatically assume that there must be a creator of this complex device. The nature is not only extremely complex but its components are in harmony with each other to sustain life and diversity. On the basis of the spaceman’s logic, we have to conclude that there must be a creator who is acting through laws of nature. Although in his masterpiece book, ‘On the Origin of Species’ religion was quoted to be a tribal strategy, Darwin still believed that God was the ultimate lawgiver, and later recollected that at the time he was convinced of the existence of a God as a ‘First Cause’ with occasional doubts. Though reticent about his religious views, in 1879 he responded to many queries by saying that that he had never been an atheist in the sense of denying the existence of a god. He also remarked that, "Science has nothing to do with Christ, except insofar as the habit of scientific research makes a man cautious in admitting evidence. For myself, I do not believe that there ever has been any revelation. As for a future life, every man must judge for himself between conflicting vague probabilities”.

We have to put on a break for a long pause in the 20<sup>th</sup> century as the eternal debate on the existence of God and consequently on the need for conventional religion got on to a scientific basis and the scientists and intellectuals were able to question about the blind faiths and abnormal practices of religions. In the middle of the 20<sup>th</sup> century the great German Psychologist and thinker, Carl Gustav Jung wrote in an article in Analytical Psychology in 1944, and I quote, ‘I am convinced that exploration of psyche is the science of the future. This is the science we need most of all, for it is

gradually becoming more and more obvious that neither famine, nor earth quakes, nor microbes, nor carcinoma, but man himself is the greatest peril to man, just because there is no adequate defence against psychic epidemics, which cause infinitely more devastation than the greatest natural catastrophes' Jung had overlooked the fact that there is a defence mechanism or a safety bulb against such epidemics. This is the unwavering belief in God and religion. The horrors and the Armageddon created by likes of Hitler, Stalin, Genghis Khan, etc. may be attributed to the epidemic of mental illness spread by these godless individuals.

We can criticise the excesses and miss-interpretation and over-interpretation of religious dicta and practices. We can protest against extremism in religion with all possible means at our disposal but most scientists and philosophers had not been able to abandon religion and God at least a personal God. Even Jung admitted in his book, 'The Undiscovered Self' that, 'you can take away a man's gods, but only to give him others in return'. Aldus Huxley said, 'If God did not exist, it would be necessary to invent one'.

At the end of the 19<sup>th</sup> century, another great scientist Michael Faraday showed how science and knowledge could be promoted without abandoning conventional faith in the scripture. He found no conflict between his religious beliefs and his activities as a scientist and a philosopher. He viewed his discoveries of nature's laws as part of the continual process of "reading the book of nature", no different in principle from the process of reading the Bible to discover God's laws.

At the border of 20<sup>th</sup> and 21<sup>st</sup> century we see the resurgence of God-bashing by some prominent scientists lead by Richard Dawkins, an evolutionary biologist at Oxford, in his recent book entitled, 'God Delusion'. My temptation to read the book stem from my knowledge of his scholastic prowess demonstrated in his earlier books, e.g. , Blind Watch Maker, Selfish Gene, Unweaving the Rainbow etc. I was amused to read in the preface of the God Delusion, which I quote, 'if this book works, as I intent, religious readers who open it will be atheist when they put it down'. This made me think that this must be a comedy book. I read the whole book and was disappointed to find no humour anywhere within the 420 pages of the book. I was saddened to find that a man who had, in the past, so clearly explained scientific truth about evolution, supporting Darwin's theory, and had been highly regarded as one of the greatest thinkers and scientists of the modern time, could get so muddled up trying vainly to prove that there is no God and convert the readers to his own cult of atheism. He has sold many thousands of books but I doubt if he has been able to convert anybody by his arguments. This is only because God exist for we need one.

At the end of the 20<sup>th</sup> century an elite group of theoretical physicist were trying to play 'God' with the development of quantum mechanics and the so called, 'theory of everything'. One of the pioneers in this group of adventurers, Stephan Hawking, is a living legend at present at Cambridge. In his world famous book, 'A brief history of time' he made a shattering concluding remark, "if we discover a complete theory, it should, in time, be understandable by everyone, not just by a few scientists. Then we shall all, philosophers, scientists and just ordinary people, be able to take part in the discussion of the question of why it is that we and the universe exist. If we find the answer to that, it would be the ultimate triumph of human reason, for then we should know the mind of God".

Theory of everything is now firmly established. Higg's boson, i.e. the so called, 'God particle' has been experimentally detected. The mechanism how mass exist and the universe is created is supposedly understood. The question now is, 'what about the mind of god?' The truth of the matter is we still don't really know what the Universe is, where it came from, or how it came into being, whether it is the only one and we do not known the really fundamental nature of its main components. Time is a mystery, and the fate of the Cosmos remains uncertain to say the least. It is the same dictum, 'the more we know the more we know how much we do not know.' we do not know the mind of God, and possibly never will.

Enter the 21<sup>st</sup> century and we find quantum mechanics is everywhere. It is being used to explain the behaviours of mass from the cosmos and the Universe down to most elementary particles such as photons, quarks etc. It is now being applied to interpret and explain our conciseness, the very essence of religion and a container of our faith. Lucanian professor, Hawkin contested Darwin's concept that the Universe couldn't have been created out of chaos without a creator. He recently changed his mind. Instead of trying to understand the 'mind of God', he rejected the whole idea of God. In his recent book (2010), the grand design and in recent (April 2012) interviews for BBC panorama programme, he asserted that, 'it is not necessary to invoke 'God' to light the blue touch paper and set the Universe going'. According to his latest sermon, the seed of our existence was there at the creation of the Universe in a 'big bang'. The big bang was a spontaneous process governed by laws of gravitation. So there is no need for the hand of God. The question remains, as always, who, how and why introduced the law of gravity!

Science is based on facts and logic, whereas religion is a matter of faith – faith in an omnipotent, all knowing and all powerful Being, governing every aspect of our lives. Evolution of man from monkeys is a part of Darwin's theory of natural selection through the survival of the fittest. It is a theory based on facts and logic and is widely accepted as the scientific truth. However, a vast number of people, particularly those living in America's Bible belt, categorically and vehemently reject such science in favour of the belief that God created man in his own image and at a specific moment in time. In some states the Darwin's theory of evolution has been taken out from school curricula.

In the face of it the two concepts seem to be irreconcilable. But if the dicta in the scriptures are not taken too literally, a resolution of the conflict of scientific truth of evolution and the creationism concept, enshrined in the Holy Scriptures, may be found. One has to ask oneself, what would be the definition of time mentioned in the genesis in terms of days. Are the God-days the same as man-days? Is the man, who God has created in his own image, mentioned in the scripture, the same one who roamed the jungles of Ethiopia or the mountain trails of Java or the ancestors of the white settlers along the bible belts?

I am a scientist by profession and I know that science is not out there to knock down God or bash religion out of existence. In my personal perspective science is one of God's most wonderful gifts to mankind which allows him or her to understand the beauty of the natural world and the immensity of power of its creator. The evolutionary process leading to the creation of man must be God's ingenious cosmic design, conceived and programmed before God created the Universe in a big bang. That is what science says about the creation of the Universe which conforms to the 'intelligent design' concept of the creationist ideology.

Now, what about the creation of man? The 'being' with a conscience! The ultimate creation of God! How can Darwin's theory of evolution be reconciled with the description in the genesis in Bible or description in the holy Quran? Well, before we try to answer this question we must define the terminology, 'Man'. We must ponder if the man mentioned in the scripture is the same one described by Darwin? Superficially the answer seems to be 'yes'. But when one looks deep and thinks laterally the answer may be different. If the answer is no, what then is the difference one might enquire? Darwin described the evolution of the Homo sapiens, meaning 'wise man' as a result of an evolutionary process from the monkeys also known as the Homo erectus, i.e. erected man. The Homo sapiens survived and thrived because it developed some intelligence, intelligence to use tools, make fire, ability to live in tribes etc. But they were still the apes although the scientist categorized them under the heading of Man. It is conceivable that the original 'man' as mentioned in the Holy Scriptures, was created suddenly. Perhaps when God said let there be a man a so called 'Neanderthal man' or the one of the Homo sapiens, albeit still apes for all intent and purposes, got

the inspiration and became the 'Man' of the holy scripture. The proof may be the hand print or drawing on cave walls. These may be the conscious declaration to the posterity that a Man is born.

Could it be that the scripture is describing the creation of that man and not the ape-man described by the evolution theory? If so, we may have found reconciliation or rather a resolution of the conflict between the scientific truth of evolution and the belief of creationism in the scripture. It transpires from the analysis of the evolution of ideas by the great thinkers of the past millennia that it is not necessary or even possible to make reconciliation between science and religion. We have come a long way from the dark days of Galileo's era, now that the people like Hawkin and Dawkins are not prosecuted for their beliefs and books.

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