

## Science and Spirituality – Complementary or Contradictory?

By Rafael Espericueta

(*Satya nasti paro dharma!*) is an ancient Sanskrit saying that can be translated “There is no religion higher than truth”. Central to both science and spirituality is the seeking of truth and grasping the essential nature of reality. The goal of science is a complete understanding of the fundamental principles underlying the physical universe in all its diverse forms. Spirituality is the awakening of wisdom concerning how we affectively relate to each other and to the world. Science seeks to enlighten our minds, while spirituality seeks to awaken our hearts. Each is necessary for a full fruition of the other. Although some may consider science to be antagonistic or contradictory to their religion and spirituality, the truth is that compulsive attachment to particular doctrines and dogmas are inimical to both science and to a deeper realization of spirituality.

Science has historically often seemed to be at odds with religion. Yet there is a form of spirituality with which science has no discord. Interestingly, the mystics of all religious traditions seem to be substantively in agreement. The Christian mystic, Sufi mystic, and Zen master all seem in perfect accord, even while many exoteric Christians (and Muslims and others) are at each other’s throats over minor doctrinal differences. The 20th century philosopher Aldous Huxley referred to this mystical invariant across cultures and ages as *perennial philosophy*. At this level of religion/spirituality there is no conflict whatsoever with science. Indeed, science itself is deeply rooted in ancient western mystical traditions, such as alchemy and Kabala. Sir Isaac Newton was unarguably the quintessential scientist. Yet Newton’s alchemical writings were more voluminous than his scientific and mathematical works (he wrote over a million words on the subject). At this (deepest) level of religion, science and spirituality are quite harmonious and complementary. For it was never religion per se that conflicted with science, but dogmatism. Indeed, dogma is and has always been the enemy of both science and spirituality.

The historical conflicts between science and religion are all due to the tendency of doctrine and dogma to be mistaken for religion. The dogma is believed to be Reality itself, not simply an attempt to describe reality. Alternate descriptions of reality are seen as a threat. In fact, the famous conflicts between science and Christianity perhaps pale in significance when compared to the conflicts between various sects of Christianity. What today seem trivial variations of the same basic dogmatic systems of belief led to purges and persecutions that have left hundreds of thousands dead.

Science seeks truth, but can never say that absolute Truth has been attained. Scientific theories are models of reality, and must always be considered essentially tentative. Science makes a fundamental distinction between a theory, and the reality the theory is attempting to describe. There are no facts in Science, just observations and theories. A theory is an attempt to explain the observations, and to predict phenomena as yet unobserved. Theories are models of reality, not reality itself. Although theories can never be proved, all it takes is one (repeatable) observation to disprove a theory! The biggest impediment to the evolution of Science has always been scientists themselves (or

others) being too attached to their old and inadequate theories. To be true to Science, a scientist should be willing to sacrifice her pet theory at the drop of a hat (should that hat's dropping in some way contradict the theory). As soon as the old theory is thrown on the theoretical scrap heap, it's time for scientists to have fun creating a new theory that's consistent with all the observations at hand. Throwing out an outdated theory should be a time of exaltation and celebration, for this is the process of deepening our understanding of the universe.

Eastern philosophies and the philosophy of science seem to be quite on the same wavelength with respect to their distrust of dogma. In Sanskrit, (*Neti neti*) is an ancient yogic admonition "Not this, not this", meaning that one's conceptualization of reality always falls short of the mark. No matter how fine the mesh of the (conceptual) net you cast, there will always be smaller fish that elude it. This is why Lao Tsu's classic Taoist scripture, the Tao Te Ching, begins with the disclaimer: "The Tao that can be spoken is not the true Tao". A Zen koan states "If you meet the Buddha on the road, kill him!". This implies not only that one shouldn't be attached to one's concepts, but that one must ultimately uproot them all. All dogma must be sacrificed for a deeper perception of truth to arise.

Despite all this iconoclasm, there is something akin to belief at the very root of the above-mentioned Eastern and Western mysticisms. This fundamental belief is also at the root of scientific philosophy as well. Underlying scientific philosophy is the assumption that our senses and intellects are fundamentally trustworthy, and properly used can deepen our understanding of reality. Similarly, in Eastern philosophy and in Western mystical traditions there's a fundamental assumption that our hearts and intellects are fundamentally trustworthy, and can lead us to a deeper realization and understanding of our own true nature. This "root belief" isn't quite the same as the dogmatic beliefs of a religious fanatic; this assumption isn't absolute truth, but is rather a working hypotheses. After all, if we can't trust our own senses, heart, and intellect, then who and what can we trust? For trusting an external "authority" also implies trusting our own senses, heart, and intellect's ability to judge the worthiness of that "authority".

Both science and spirituality would thus have us "come to our senses"! Doctrines and belief systems are conceptual frameworks that must be subservient to our senses. Perhaps the truest meaning of "idolatry" is to enthrone dogmas over the evidence of our own senses. Exalting dogmas over our senses reeks of schizophrenic delusion. I once asked the eminent neuro-psychiatrist Monte Buchsbaum, then director of the University of California at Irvine Brain Imaging Lab, how modern psychiatry differentiates the delusional thoughts of schizophrenics from those of religious fanatics. He responded to the effect that the essential difference is that that schizophrenics are alone in their delusions, while in the case of fanaticism there are many who share the same (perhaps delusional) beliefs. A unique delusional belief may be a symptom of schizophrenia, a few people sharing such a delusional belief constitutes a cult, and a cult with many members all sharing the same delusional beliefs becomes a religion. Yet mystics, regardless of their cultural background, manage to transcend the exoteric (and largely delusional) systems of belief of their religious traditions.

One particularly clear manifestation of the mystics' perennial philosophy is Zen. Having been filtered through Indian, then Chinese, then Japanese, and now Western cultures, what's left is essentially concentrated perennial philosophy, devoid of excessive cultural baggage. Zen in its Chinese incarnation was deeply influenced by the indigenous Taoist tradition, which emphasized contemplation of Nature as a path to truth. Not through words and concepts but via the senses is reality glimpsed. This clearly resonates well with scientific philosophy, wherein careful observation is paramount.

In his 16th century work, *Discourse on the Inexhaustible Lamp of the Zen School*, Zen master Torei Enji Zenji wrote that three qualities necessary for success in spiritual realization are great faith, great doubt, and great determination. These same three qualities are also necessary for success in scientific endeavors.

"Great faith" in Zen practice refers to a trust in the process, as demonstrated by the many who have gone on before, as well as a firm trust in one's capabilities to see the essential nature of reality for oneself. In scientific work, "great faith" refers to a trust in the scientific method, successfully applied by scientists of the past, as well as an underlying belief in one's inherent capability to understand the phenomena being studied.

"Great doubt" in Zen refers to a willingness to profoundly question all of one's most cherished beliefs, and ultimately to uproot them. Beliefs are but concepts, floating on the surface. The conceptual realm may be useful at times, but compulsive attachment to particular concepts is a hindrance to penetrating to deeper levels of realization of the fundamental nature of reality, which is beyond all concepts. An ancient Chinese saying states that when a wise man points his finger to the moon, the fool sees only his finger. In science, "great doubt" is based on a realization that the model is not the reality. Being too attached to a particular hypothesis or theory can prevent one from arriving at a better theory that reflects a deeper understanding of the phenomena of interest.

"Great determination" in Zen is required in order to not give in to laziness. The process may take some time, and without determination one may never attain deep realization. In fact, there is no deepest realization, and only by great determination will one keep going deeper. Of course the same can be said of scientific research.

At root, the deepest spiritual traditions have essentially the same epistemology as scientific philosophy. Beyond this, the discoveries of science provide insights that can inspire us and help to awaken in us profound epiphanies. Science has shown us a universe more wondrous and beautiful than we could possibly have imagined, were we content with our moldy old dogmas. One can't study science without being frequently awe-struck at the magnificence of this universe, from which we cannot separate ourselves. Mystics from time immemorial have stated that we are one with the universe, and modern science also shows this principle in diverse ways. We (and all sentient beings) are in a way the universe becoming aware of itself. The phrase from the mystic poet William Blake,

"To see a world in a grain of sand and heaven in a wild flower, hold infinity in the palm of your hand and eternity in an hour"

seems to describe the universe as a fractal. For fractals have the property that a tiny part of it encodes the entire fractal. The part can in a very real sense equal the whole! Science and mathematics provide us with metaphors that clarify and deepen our understanding of ancient spiritual truths.

Science with heart will be the religion of the future. Science uncovers the abstract principles underlying nature, and spirituality informs us of the proper way to regard all this – with vast love and awe. Although in English the word for mind is distinct from the word for heart, in Chinese the word *xin* translates into English as *heart/mind*. And indeed, heart and mind are not really separate. One can't have one without the other, and every great scientific discovery was an epiphany not only for the scientist originally discovering it, but also for those who later come to understand it. Despite the common misapprehension of science as a dispassionate endeavor, it's actually a very passionate endeavor. As Einstein noted,

"The most beautiful and profound emotion we can experience is the sensation of the mystical. 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 only in their primitive forms - this knowledge, this feeling, is at the center of true religion."

Of course, this same feeling is also at the very heart of science. Science hones and clarifies our spiritual realizations, even as our spiritual epiphanies inspire the evolution of science. Thus will be forged a great cosmic religion of the future!