

# Einstein And Mysticism: How Subtle Is The Lord?

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STEPHEN Hawking had a quotation of Einstein on the wall of his office at Cambridge, which said that the "most beautiful experience" one could enjoy is a sense of mystery. When asked to comment on it, Hawking in his characteristic style was forthright, "I completely disagree with that. It seems the secretary found it and thought it would decorate the office. I rather object to it." When asked *why*, prompt came Hawking's sharp reply, "Because it's mystical and I very much disapprove of mysticism. I think it's a cop-out: The whole idea of a scientific theory is that it produces definite predictions. But on the other hand, mysticism clouds it with obscurity." The interviewer then pointed out that even great scientists like Newton and Kepler believed that they were looking at the "logical orderly beautiful mine of God" — Hawking retorted, "We still believe that the universe should be logical and beautiful. We have just dropped the word God." (Excerpts from the interview quoted by R. Weber, *Dialogues with Scientists and Sages*, Routledge and Kegan Paul, London, 1986).

However, *contrary* to the impression given by the above remarks of Hawking, Einstein's position on the questions of science vis-a-vis religion was not of a naive mystical type; it was instead philosophically profound and much more subtle than to be just dismissed as "clouded with obscurity."

Though Einstein categorically did not believe in personal God and in any conventional form of religion, he had his own concept of so-called mysticism which is often misunderstood. All the deep thinkers "with a passion for comprehension" have something in common, according to Einstein. This he attributes to a "cosmic religious feeling". What he exactly meant by this can be understood provided one looks at his relevant writings with sufficient care and attention.

It is true that Einstein's oft-quoted statements such as "God does not play dice", "The Lord is subtle but not malicious", and "How much choice did God have in creating our universe?" do contain the word "God" or "Lord" which have given rise to misinterpretations of Einstein's point of view. But, instead of viewing such quotes in isolation, if one takes into account Einstein's general philosophical framework, it should be clear that the term "God" or "Lord" was essentially used by Einstein to denote in a symbolic form the fundamental forces of nature underlying physical phenomena. These forces are subject to the laws of physics. Nevertheless, all aspects of them may not yet be known to us. It is interesting that even a firm atheist like Stephen Hawking also uses the word

"God" in this symbolic sense when he talks about the "mind of God" in his best-seller *A Brief History of Time*.

On July 17, 1953, a woman, who was a licensed Baptist pastor, sent Einstein in Princeton an interesting letter. Quoting several passages from the scriptures, she specifically asked Einstein's opinion on the notion of Supreme Being. It is not known whether a reply was sent, but the letter is in the Einstein Archives (Princeton, New Jersey) and on it, in Einstein's own handwriting, is the following comment: "What I see in nature is a magnificent structure that we can comprehend only very imperfectly, and that must fill any thinking person with a feeling of humility."

Earlier, in April 1929, Rabbi Herbert S. Goldstein of New York had cabled: "Do you believe in God?" Einstein had cabled back: "I believe in Spinoza's God, who reveals himself in the harmony of all being, not in a God who concerns himself with the fate and actions of men."

When Einstein was asked during a serious illness whether he was at all afraid of death, he said: "I feel such a sense of solidarity with all living beings that it does not matter to me where the individual begins and ends." And he added: "There is nothing in the world which I could not dispense with at a moment's notice." Such utter fearlessness of death and total detachment, liberation from the self, and complete dedication

in ceaseless pursuit of truth, constitute the foundation of what can be termed as the deepest spiritual convictions.

In 1955, a few months before his death, Einstein received from a woman in Vienna a letter imploring him to tell her what was his final opinion concerning immortality of human soul and existence of superhuman authority in the universe. Here is the English translation of the German draft of the reply written by Einstein: "I have never imputed to nature a purpose or a goal, or anything that could be understood as anthropomorphic. The mystical trend of our time, which is manifested in the rampant growth of the so-called theosophy, is for me no more than a symptom of weakness, confusion and a convenient vehicle for exploitation — it is far more important to make our present life on Earth better than to worry about rewards or punishment after death."

It is indeed difficult to find among the true scientific minds anyone without a spiritual feeling on his own. But there are nuances of this feeling which differ from scientist to scientist. Einstein's attitude was essentially in the form of a rapturous and reverential amazement at the harmony of natural laws.

In prescientific times it was not possible by means of thought alone to attain results that all mankind could have accepted as certain and necessary. Still less was there a conviction that all that happens in nature is subject to inexorable laws. The fragmentary character of natural phenomena as perceived by the primitive observer was such as to foster a belief in ghosts and spirits. It stands to the everlasting credit of science that it has managed to overcome man's insecurity before nature.

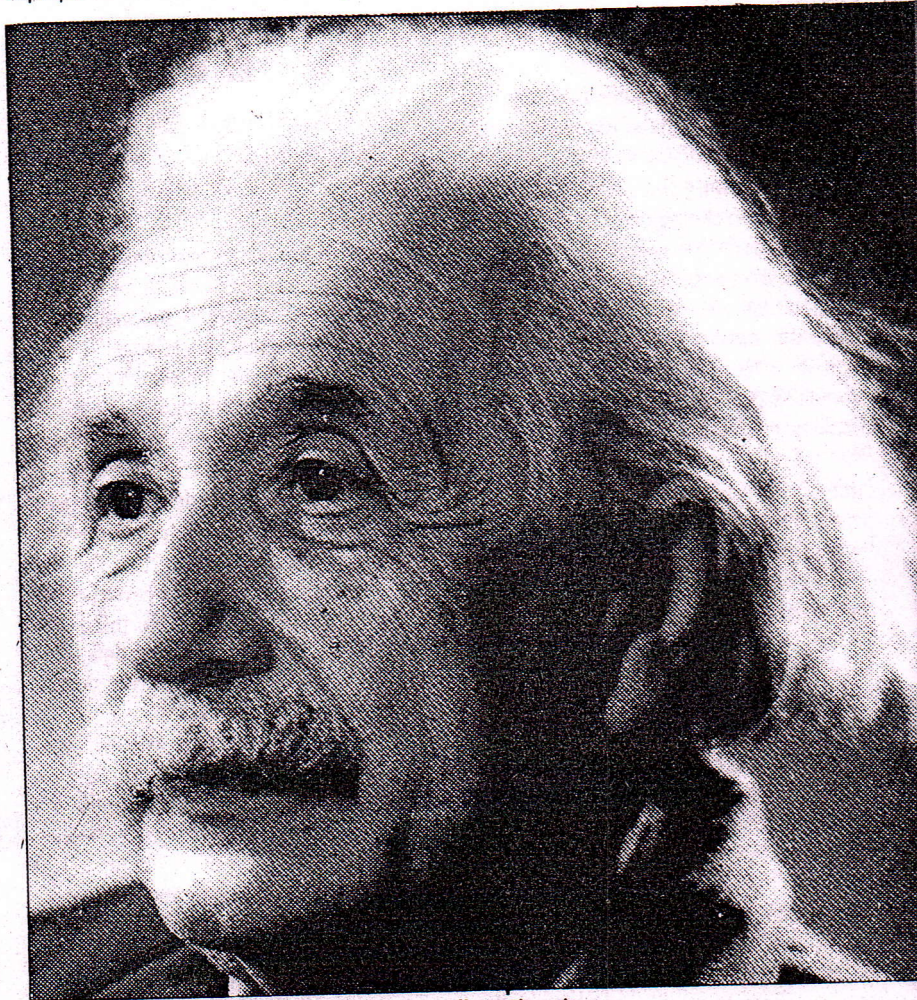
In creating elementary mathematics, the Greeks for the first time devised a system of thought whose conclusions had no subjective element. The scientists of the Renaissance then hit upon the combination of systematic experiments with mathematical analysis. This union made possible an incredible precision in the formulation of natural laws and impressive certainty in checking them by experience. In the words of Einstein, "The general public may not be able to follow the details of scientific re-

search but it can register at least one important gain: the confidence that human thought is dependable and natural law universal." As Tolstoy put it, "The highest wisdom is one. The highest wisdom knows but one science — the science of the whole, the science that explains the whole creation and the place of man in it."

In an address delivered at a symposium of science, philosophy, and religion (New York) in 1941, Einstein stated: "A person who is religiously enlightened appears to me to be one who has, to the best of his ability, liberated himself from the fetters of his selfish desires and is preoccupied with thoughts, feelings, and aspirations to which he clings because of their *superpersonal* value. What is important is the force of this superpersonal content and the depth of

conviction, regardless of whether any attempt is made to unite this content with a divine being, for otherwise it would not be possible to count Buddha and Spinoza as religious personalities. Science can only be created by those who are thoroughly imbued with the selfless aspiration towards truth and understanding. This source of feeling, however, springs from the sphere of religion. I cannot conceive of a genuine scientist without that profound faith, science without religion is lame, religion without science is blind." Here it is important to stress that Einstein used the term "religion" in the sense of spiritualism and *not* in any conventional sense of organized religion based on beliefs and rituals centred round the notion of "God".

An important source of the present day



Albert Einstein

conflict between religion and science lies in the concept of *personal God*. One, of course, cannot deny the fact that the notion of the existence of an omnipotent and omnibeneficent personal God is able to provide man solace and stimulation; also, by virtue of its simplicity, it is easily accessible.

On this aspect, however, Einstein pointed out: "There are decisive weaknesses attached to this idea of personal God, which have been painfully felt since the beginning of history. It is this undefined source of fear and hope which is the genesis of irrational superstitions and in the past placed such vast power in the hands of the priests and so ruthlessly exploited by them. Unfortunately, the doctrine of a personal God interfering with natural events can always take refuge in those domains in which scientific knowledge has not yet been able to set foot." Thus, Einstein's stand on this issue was quite unambiguous, contrary to many popular impressions.

The goal of science is not only to discover rules which furnish the correct correlation and prediction of empirical facts, but it also seeks to reduce the connexions discovered to the smallest possible number of mutually independent conceptual elements. It is precisely this striving after the logically systematic unification of the manifold that stimulates profound reverence for the rationality manifested in the mechanism of the universe around us. The "humble attitude of mind towards the grandeur of reason incarnate in existence" is what Einstein attributed to be the "religious feeling in the highest sense of the term." It is in this spirit that scientific reasoning can be envisaged to aid religion in achieving its primary goal of liberating mankind from the bondage of egocentric cravings and selfish motives and it is this outlook that motivated Einstein to make the following perceptive comment, which may be considered to be the kernel of his views on religion: "The further the spiritual evolution of mankind advances, the more certain it seems to me that the path to genuine religiosity does not lie through the fear of personal God or blind faith, but through striving after rational knowledge; after religious teachers give up the doctrine of a personal God and

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accomplish the necessary refining process they will surely recognize with joy that true religion can be ennobled and made more profound by scientific knowledge."

For most scientists, the search for coherent laws ends in mathematical equations. However, for some of the more profound minds, equations alone are not enough to satisfy the scientists' wonder and they point to something else, the reality underpinning the mathematical formalism. It is this that the famous physicist Richard Feynman had in his mind when he said: "To those who do not know mathematics, it is difficult to get across a real feeling as to the beauty, the deepest beauty of nature."

Mysticism, too, begins in awe and wonder. The search for the 'one', for the final source of understanding, has been the origin of both mysticism and science. However, the scientific method based on factual content which can be checked experimentally has carried science on a different path. It is, therefore, not surprising that this attitude leads to a conflict between science and religion, when a regularity in a scientific paradigm contradicts the general pic-

ture emerging from the teachings of organized religion.

In the modern age, this conflict started with the trial of Galileo, and one might mention that even in ancient Greece, Socrates was condemned to death because his teaching seemed to contradict some aspects of the traditional religious doctrines. One of the founders of quantum mechanics, Werner Heisenberg, remarked that if we want to approach the "one" in terms of a precise language, we have to look for that area of natural science, described already by Plato, in which lies the fundamental mathematical symmetries. "Thinking in this language, we should be satisfied with the statement: 'God is a mathematician'. The tremendous empirical success of the scientific method excludes any definition of truth which would not withstand the sharp criteria of this method. At the same time, it may be a well established fact in social sciences that the internal equilibrium of a society depends, at least to some extent, on the common relation to the 'one'".

In the context of this important issue related to "the internal equilibrium of a society", Einstein strongly believed that the ethical behaviour of a man should be based primarily on moral sensitivity, education and social ties. A God who rewards and punishes is a superfluous concept to a rational mind for the simple reason that a man's actions are wholly determined by the necessities conditioned by external circumstances and the internal frame of mind so that with respect to the so-called personal God he cannot be responsible any more than an inanimate object is responsible for the motion it undergoes. True thinkers of all ages are essentially characterized by a sublime spiritual feeling (which Einstein called the "cosmic religious feeling", not necessarily entangled with the concept of God conceived in terms of human images).

How can this complex form of spiritual attitude be communicated from one person to another without taking recourse to a definite notion of a personal God or theology? On this question, in an article published in the *New York Times* (November 9, 1930), Einstein had observed

"The most important function of any creative human endeavour in art and science is to awaken this cosmic religious feeling and keep it alive in those who are receptive to it ... it is only the cosmic religious feeling that can provide a creative man sufficient strength to remain true to his purpose in spite of being surrounded by a skeptical world. In this materialistic age of ours, the committed creative persons are the only profoundly religious people." A closely similar outlook is reflected in Gautama Buddha's maxim: "Believe nothing no matter where you read it, or who said it, no matter if I have said it, unless it agrees with your own reason and your own common sense." (The original form of Buddhist philosophy advocated "spiritual upliftment" without using the notion of "God").

It should be pertinent to note how some of the contemporary religious personalities have reacted to modern scientific discoveries; for instance, Pope had commented in the context of the big bang model of the origin of our universe, "True science to an ever increasing degree discovers God as though God were waiting behind each door opened by science." Here we may compare this with the viewpoint expressed by a distinguished contemporary scientist Ilya Prigogine: "Classical science was born in a culture dominated by the alliance between man — situated midway between the divine and the natural order — and God, the rational and intelligible legislator, the sovereign architect we have conceived in our own image. But it is clear that this classical view of reason may lead to some form of alienation. We are closer now to Kierkegaard or Monod, who say man's place in the universe is what he makes of it".

Stressing that it is the mythical content of the religious traditions which comes into conflict with science, Einstein said: "This occurs whenever this religious stock of ideas contains dogmatically fixed statements on subjects which belong to the domain of science. Thus it is of vital importance for the preservation of true religion that such conflicts be avoided when they arise from subjects which, in fact, are not really essential for the pursuance of the

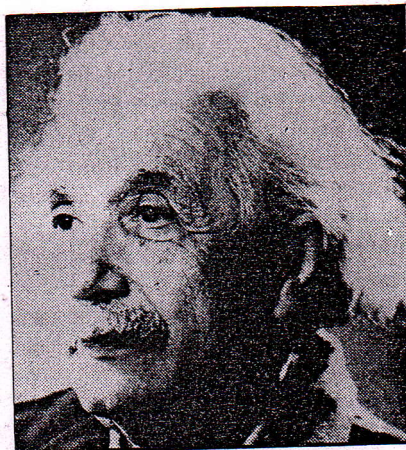
religious aims".

Elaborating on this scheme, Einstein's central point seemed to be that religion should essentially be concerned with man's attitude towards the establishing of ideals for the individual and communal life, and with human relationships coupled with the emotional foundation of human thinking. However, he painfully noted that while religion officially prescribes brotherly love in the relations among individuals and

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groups, "the actual spectacle more resembles a battlefield than an orchestra. Everywhere, in economics as well as in political life, the guiding principle is one of ruthless striving for success at the expense of one's fellowmen. This competitive spirit prevails even in schools and, destroying all feelings of human fraternity and cooperation, conceives of achievement not as derived from the love for productive and thoughtful work, but as springing from personal ambition and fear of rejection."

Underscoring the point that it should be the privilege of human genius, impersonated by inspired individuals, "to advance ethical axioms which are so comprehensive and so well founded that men will accept them as grounded in the vast mass of their individual emotional experiences", Einstein argued: "Whoever is concerned with this problem, a crucial one in the study of religion as such, is advised to read the description of the Pueblo Indians in Ruth Benedict's book, *Patterns of Culture*. Under the hardest living conditions, this tribe has apparently accomplished the difficult task of delivering its people from the scourge of competitive spirit and of fostering in it a temperate, cooperative conduct of life, free of external pressure and without any curtailment of happiness".

To illustrate his notion of the "cosmic religious person", Einstein was fond of citing the following example: During the First World War, someone tried to convince a famous Dutch scientist that this war might eventually prove to be the right step in the history of mankind. The scientist had replied: "I cannot now disprove the accuracy of your assertion, but I do know that I should not care to live in such a world". Einstein remarked: "This is what I call divinity — let us think, feel and act like this man, uphold the dignity of man by refusing to accept fateful compromises even if they are legitimized in the name of God and religion". If those adhering to the rational pursuit of knowledge had not been inspired by this sort of "divine" conviction, they would hardly have been capable of that enterprise which enables man to contribute towards the upliftment of human civilization.