



BY FELIX MENDELSSOHN — THE WASHINGTON POST

Einstein's Intoxication With the God of the Cosmos

By Eugene T. Mallove

BECAUSE ALBERT Einstein, the humble and intensely private seeker of truth, was so reluctant to broadcast his views, few know him as the God-intoxicated man that he was. His writings and spoken words, sprinkled along the path of his 76 years, reveal an intensely religious person. Paradoxically, while he lived, he was reviled as an atheist by some. But they didn't understand him.

Einstein's God was neither the personal God of Western religions nor did his theology match religions of the Orient. He spoke and wrote of having a "cosmic religion"—beliefs that he claimed were difficult to describe to anyone who is entirely without them. Central to his religiosity was, in his words, a "rapturous amazement at

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the harmony of natural law, which reveals an intelligence of such superiority that, compared with it, all the systematic thinking and acting of human beings is an utterly insignificant reflection."

He did not believe in a personal God, writing in his 1931 essay "The World as I See It," "I cannot conceive of a God who rewards and punishes its creatures, or has a will of the kind we experience in ourselves. Neither can I nor would I want to conceive of an individual that survives his physical death."

Mystery, but not mysticism, was key to Einstein's religious sentiment. In words impossible to paraphrase without doing them an injustice, he wrote. "The most beautiful experience we can have is the mysterious. It is the fundamental emotion which stands at the cradle of true art and true science. Whoever does not know it and can no longer wonder, no longer marvel, is as good as dead, and his eyes are dimmed.

"It was the experience of mystery—even if mixed with fear—that engendered religion. A knowledge of

something we cannot penetrate, our perceptions of the profoundest reason and the most radiant beauty, which only in their most primitive forms are accessible to our minds—it is this knowledge and this emotion that constitute true religiosity; in this sense and in this sense alone, I am a deeply religious man."

Einstein spent his early years as a non-practicing Jew in Munich, aware of his heritage yet in a family so assimilated and devoted to practicality that for sheer convenience young Albert went for five years to a Catholic elementary school. In his own autobiographical notes he described having attained a "deep religiosity" by age 12. Having studied violin since age 6, he also was struck by chords of musical influence. Ronald Clark, one of Einstein's biographers, speculating on the origin of his religious feelings wrote, "Always sensitive to beauty, abnormally sensitive to music, Einstein had no doubt been

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impressed by the splendid trappings in which Bavarian Catholicism of those days was decked out."

Einstein's scientific career started at age 5 when his father showed him a pocket compass. Einstein later remembered wondering what invisible force could make the needle always point in the same direction. He went on to unify electromagnetism and mechanics within a consistent framework. By 1905 Einstein had published his theory of Special Relativity that was soon to bring him universal scientific acclaim.

The breathtaking imagination of his 1916 General Theory of Relativity, describing gravity's origin in the curvature of space and time by matter, catapulted Einstein to the Mount Olympus of science. He spent the rest of his life in a failed attempt to unify the other known forces of nature with gravity, a task that today, 30 years past his death, begins to seem within reach.

The revelations of his theories no doubt strengthened Einstein's belief in the paramount importance of comprehending the natural order. He made statements about this, which, taken out of context, might be mistaken for more conventional religious beliefs, e.g., "I want to know how God created this world. I am not interested in this or that phenomenon, in the spectrum of this or that element. I want to know His thoughts, the rest are details."

Einstein's God was the Universe itself, not an external "grand puppeteer." And he had no doubt that there was a Universe, a deep, superpersonal reality, beyond the solipsism — the idea that nothing is real but the self — often so deceptively attractive to the human mind. He wrote in 1941, "A person who is religiously enlightened appears

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with living beings. This gave way to a succession of mythic universes with multiple powerful gods as prime movers. Thence to a medieval universe and a succession of physical universes. Harrison suggests that we shall never know the true "Universe" no matter how we embellish our transitory "universe." Harrison stands with Einstein in believing in the ultimately unattainable "Universe."

Though we might struggle 10,000 years to fathom the Universe and still not succeed, the quest is still worthwhile. Einstein had faith that, "God is subtle, but he is not malicious." By this he meant that even though the Universe did not reveal its inner workings easily, it would not torture us with impossibly devious riddles.

He was impressed with the comprehensibility of the universe. After all, one could imagine a chaotic world without rhyme or reason—a world impossible to understand by any simple set of laws. But the world is far from that way. It is strikingly regulated.

Einstein believed that faith in this regularity came from "religion": "Science can only be created by those who are thoroughly imbued with the aspiration toward truth and understanding. The source of this feeling, however, springs from the sphere of religion.

"To this there also belongs the faith in the possibility that the regulations valid for the world of existence are rational, that is, comprehensible to reason. I cannot conceive of a genuine scientist without that profound faith. The situation may be expressed by an image: Science without religion is lame, religion without science is blind."

The comprehensibility of the world was a wonder to Einstein. It was a hallmark of nature that he pointedly used against atheism. In a letter to a long-time friend in 1952, Einstein wrote of comprehensibility: "And here lies the weak point for the positivists and the professional atheists, who are feeling happy through the consciousness of having successfully made the world not only god-free, but even 'wonder free.' The nice thing is that we must be content with the acknowledgement of 'wonder' without there being a legitimate way beyond it."

The elders of his synagogue charged that he was saying that, "God had a body — the world of matter, that angels might be hallucinations, that the soul might be life itself, and that the Old Testament did not affirm an afterlife." Since he would not recant, he was excommunicated. According to Will Durant, the elders felt "that gratitude to their hosts in Holland demanded the excommunication of a man whose doubts struck at Christian doctrine quite as vitally as at Judaism."

In exile, having changed his name from Baruch (Hebrew for blessed) to Benedict, Spinoza penned lines that apparently were so congenial to Einstein, "The philosopher knows that God and nature are one being, acting by necessity and according to the invariable law; it is this majestic law which he will reverence and obey."

Cosmologist Edward Harrison spanned all of recorded philosophy in "Masks of the Universe" and then adopted the Spinoza-Einstein view. He wrote that his ideas come from "agnostic soil," though he has a Protestant background. He encapsulated the modern religious dilemma: "Rejection of the possibility of a God-Universe or UniGod perhaps explains why we find ourselves in desperate need of proof of God's existence.

"Long ago, human beings abstracted from the natural world all that they ascribed to the gods, leaving the world dead; now the gods have fled into a surrealistic world of improbable existence, taking with them the half of the natural world that we call divine. We ourselves have transformed God into a fiction that cannot be proved true."

Though Albert Einstein did not believe in the creator and fostering God of the Bible, he had profound respect for what he called "religious geniuses" who revealed moral conduct to humanity. Einstein realized the limitations of science when he wrote, "Science can only ascertain what is, not what should be."

He did not think that reason alone could generate moral imperatives. He said fundamental ends "exist in a healthy society as powerful traditions, which act upon the conduct and aspirations and judgments of the individuals; they are there, that is, as something living, without it being necessary to find justification for their existence."

And from where did these moral codes

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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." And, "A religious person is devout in the sense that he has no doubt of the significance and loftiness of those superpersonal objects and goals which neither require nor are capable of rational foundation."

Einstein was misunderstood by religionists of varied persuasion because, lacking scientific understanding, they could not see that the old-physics world of "simple" matter dispersed in vacuum had been replaced by a modern physics in which things are "not what they seem." Atoms are not hard little balls and the "void" is not dull nothingness.

Physics had grown far beyond rank materialism to embrace a pulsating, labyrinthian quantum world alive with energy and as ethereal as any heaven. In the words of physicist Edward Harrison, "... in the impalpable and seemingly inconsequential entities of the quantum world, one finds the true music and magic of nature."

Einstein himself disparaged the "naive realism" with which some still view the world—"this more aristocratic illusion concerning the unlimited penetrative power of thought has as its counterpart the more plebeian illusion of naive realism, according to which things 'are' as they are perceived by us through our senses. This illusion dominated the daily life of men and animals. It is also the point of departure in all of the sciences, especially of the natural sciences."

Einstein did not believe that science would ever know all that could be known about the world. He confided to a friend, "Possibly we shall know a little more than we do now. But the real nature of things, that we shall never know, never."

This point is the major theme of cosmologist Edward Harrison's recent book, "Masks of the Universe." Harrison eloquently traces humanity's quest to understand the world and says that in every age our world model or "universe" was thought to be the real "Universe." There was the "magic universe" of prehistory in which the animism of all objects formed a continuum

there being a legitimate way beyond the answers to the ultimate questions of science. He found that such a humbling realization that he thought it should give humans a scale against which to measure their conflicts and realize how petty they were. In a 1932 letter to Queen Elizabeth of Belgium he wrote, "One has been endowed with just enough intelligence to be able to see clearly how utterly inadequate that intelligence is when confronted with what exists. If such humility could be conveyed to everybody, the world of human activities would be more appealing."

Einstein had not yet moved to the United States to escape the coming European nightmare, but The New York Times Magazine of Nov. 9, 1930 featured an article by him, "Religion and Science." In it he discussed his "cosmic religion" and its relation to science and other varieties of religious experience. According to Clark, Catholic professor of the philosophy of religion John Fulton Sheen called it the "sheerest kind of stupidity and nonsense. There is only one fault with his cosmical religion: he put an extra letter in the word—the letter 's'."

A New York rabbi, Nathan Krass averred, "The religion of Albert Einstein will not be approved by certain sectarians, but it must and will be approved by the Jews." A few years before this episode, Cardinal O'Connell of Boston had said to his audiences that Einstein's General Theory of Relativity (the cardinal presumably understood it well) was "cloaked in the ghastly apparition of atheism." That prompted another New York rabbi to seek assurances from Einstein, leading to the famous reply, "I believe in Spinoza's God who reveals himself in the orderly harmony of what exists, not in a God who concerns himself with fates and actions of human beings."

Nearly 300 years before Einstein's flirtation with religious controversy, Baruch Spinoza was born to a family of Portugese Jews in Holland. The family had emigrated rather than face the forced conversion of the Inquisition. Spinoza was steeped in the learning and history of his people's odyssey that began 1,500 years earlier. He had a lifelong Jewish heart. But his own critical appraisal of the Bible and the influence of free-thinking that came out of the Renaissance sealed his fate.

And from where did these moral codes derive? According to Einstein, "They come into being not through demonstration but through revelation, through the medium of powerful personalities. One must not attempt to justify them, but rather to sense their nature simply and clearly." Einstein's God was revealed in the laws of physics, but ethical principles he took from the sages of all religions.

The paradox of Einstein's achievements must be counted one of the supreme ironies of history. Here was the essential pacifist who despised militarism, yet whose theories helped to unchain the nuclear genie. Never a practicing Jew, he nonetheless had the greatest affinity for the Jewish people and their post-war redemption in Israel. He was offered the presidency of Israel in 1952 but respectfully declined it. In his last years he wrote, "As to my work, it no longer amounts to much. I don't get many results any more and have to be satisfied with playing the Elder Statesman and the Jewish Saint, mainly the latter."

So Einstein's legacy must include not only his physical theories but his cosmic religion—little known and little shared, until perhaps another age. He challenged the future: "I maintain that the cosmic religious feeling is the strongest and noblest motive for scientific research." And, "In my view, it is the most important function of art and science to awaken this feeling and keep it alive in those who are receptive to it."

Einstein's life ebbed and evaporated in a hospital bed in the early morning hours of April 18, 1955—victim of an at-that-time inoperable aortic aneurism. He mumbled his final words in German to an uncomprehending attendant. Perhaps the words paraphrased his earlier expressed sentiment, "Is there not a certain satisfaction in the fact that natural limits are set to the life of the individual, so that at its conclusion it may appear as a work of art?"

His corporeal atoms were seared in the fires of cremation and were scattered, as he wished, where no monument could be built. Yet this curious and lonely human being's spirit—if we dare call it that—lives on in the world. Much cosmic business remains unfinished.