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## Quantum gods don't deserve your faith

22 April 2009 by [Amanda Gefter](#)

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### Book information

*Quantum Gods: Creation, chaos and the search for cosmic consciousness* by Victor J. Stenger

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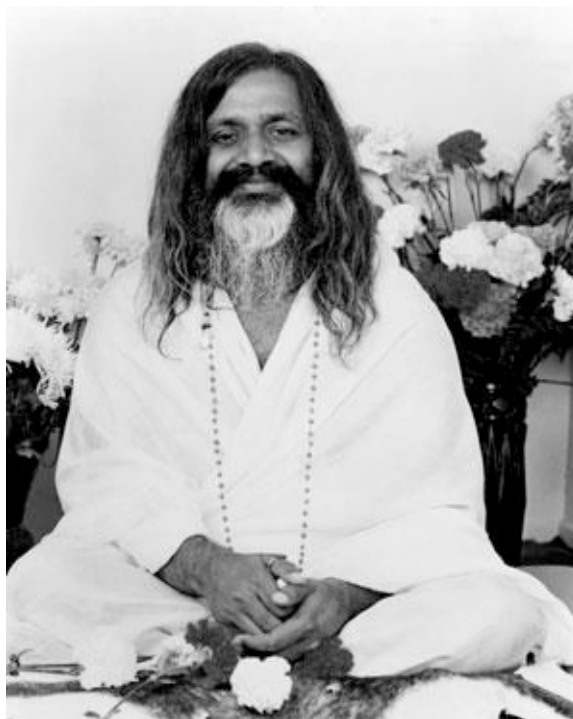
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QUANTUM mechanics is remarkably weird: even though it is well understood mathematically and can produce accurate, ultra-precise predictions, nobody really knows what it means. This leaves lots of room for people in search of the spiritual - and who are not burdened by any knowledge of mathematics - to impose on it whatever quasi-religious beliefs or interpretations they like.

In this much-needed book, physicist [Victor Stenger](#) isolates and then debunks the claims of two kinds of "quantum belief". One he calls "quantum theology" because it offers quantum physics as a way for God to act in the world without violating natural laws. The second is "quantum spirituality", which is rooted in the even vaguer notion that quantum physics connects the human mind to the universe, allowing us to create our own reality.

This was the theme of the wildly popular film [What the Bleep Do We Know!?](#), which grossed over \$10 million and was responsible for creating widespread misunderstanding of quantum physics. With [Stenger](#) in charge, though, we are on sure ground. He adds even more value by weaving a thorough beginner's course in quantum physics into his debunking exercise.

Like most scientists, Stenger believes most religious claims can be dealt with scientifically, so beliefs such as creationism or astrology aren't immune to science, they are merely wrong. Take the tale of [Maharishi Mahesh Yogi](#), the Indian yogi (and physics graduate) who taught transcendental meditation and won a global following after the Beatles joined his Academy of Meditation in India. Maharishi claimed that transcendental meditation gave practitioners access to the "quantum field of cosmic consciousness". This, he said, was identical to SU(5), the model physicists were then investigating in their search for a grand unified theory. Sadly for cosmic



Maharishi Mahesh Yogi, founder of transcendental meditation, claimed his techniques gave practitioners access to the "quantum field of cosmic consciousness" (Image: CSU Archives / Everett Collection / Rex)

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consciousness, real experiments later falsified SU(5).

As for the notion of creating our own reality, this relies on brains in some sense operating quantum mechanically - and there is no evidence for this. As Stenger says, the scales of distance involved in brain processing are more than a thousand times too large for quantum effects to necessarily come into play. Likewise, physicist Max Tegmark has shown that the timescales of events in the brain are 10 or more orders of magnitude longer than the timescales of "decoherence", the process by which quantum effects "leak" out of the quantum system.

The notion of creating our own reality relies on brains in some sense operating quantum mechanically

Meanwhile, those looking for generalised spiritual meaning tend to seek holism in quantum mechanics. Stenger cites the famous [Einstein-Podolsky-Rosen paradox](#). This 1935 thought experiment outlined a known conundrum in quantum mechanics and concluded that we must accept one of two explanations for it: either that quantum mechanics is a complete theory - despite its probabilistic dice-throwing; or that beneath it lies some deterministic reality, but one which is "non-local", that is, one where signals can travel faster than light speed, thereby violating Einstein's special theory of relativity.

Most physicists chose the first option, except David Bohm, who famously came to believe in a non-local universe. Stenger sees little of mystical import in these experiments. They are widely discussed in the literature of quantum spiritualism, but real physicists "are underwhelmed... Quantum mechanics... passed yet another empirical test. Ho hum."

Even though he skips rather dizzily between traditional religious beliefs, quantum spirituality and quantum physics itself, Stenger is a pleasure to read. And, pleasingly, the title *Quantum Gods: Creation, chaos and the search for cosmic consciousness* sounds just crackpot enough to attract those readers who will benefit most.

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