

## IS QUANTUM PHYSICS AS MYSTICAL AND MAGICAL AS MANY BELIEVE?

Paul Quincey in *Skeptical Inquirer* Volume 30.4, July / August 2006

[The] triumph of quantum mechanics came with an unexpected problem-when you stepped outside of the mathematics and tried to explain what was going on, it didn't seem to make any sense. Elementary particles such as electrons behave like waves, apparently moving like ripples on a pond; they also seem to be instantaneously aware of distant objects and to be in different places at the same time. It seemed that any weird idea could gain respectability by finding similarities with some of the weird features of quantum mechanics. It has become almost obligatory to declare that quantum physics, in contrast to classical physics, cannot be understood, and that we should admire its ability to give the right answers without thinking about it too hard.

And yet, eighty years and unprecedented numbers of physicists later, naked quantum weirdness remains elusive. There are plenty of quantum phenomena, from the magnetism of iron and the superconductivity of lead to lasers and electronics, but none of them really qualifies as truly bizarre in the way we might expect. The greatest mystery of quantum mechanics is how its ideas have remained so weird while it explained more and more about the world around us.

Perhaps it is time to revisit the ideas with the benefit of hindsight, to see if either quantum mechanics is less weird than we usually think it is or the world around us is more so.

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So it seems that quantum physics is not weird and incomprehensible because it describes something completely different from everyday reality. It is weird and incomprehensible precisely because it describes the world we see around us-past, present, and future.

### Reference

Feynman, Richard P. 1985. *QED: The Strange Theory of Light and Matter*. Princeton, N.J.: Princeton University Press.

