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Learning to Live in Steven Weinberg's Pointless Universe

The late physicist's most infamous statement still beguiles scientists and vexes believers

By Dan Falk on July 27, 2021







Credit: Alamy

Steven Weinberg, who died last week at the age of 88, was not only a Nobel laureate physicist but also one of the most eloquent science writers of the last half century. His most famous (or perhaps infamous) statement can be found on the second-to-last page of his first popular book, *The First Three Minutes*, published in 1977. Having told the story of how our universe came into being with the big bang some 13.8 billion years ago, and how it may end untold billions of years in the future, he concludes that whatever the universe is about, it sure as heck isn't about *us*. “The more the universe seems comprehensible,” he wrote, “the more it also seems pointless.”

For thousands of years, people had assumed just the opposite. Our ancestors gazed at the world around us—the people and animals, the mountains and seas, the sun, moon and stars—and saw the divine. As the 19th Psalm puts it: “The heavens declare the glory of God, and the firmament shows his handiwork.” Even Isaac Newton saw a universe filled with purpose. In his masterwork, the *Principia*, he wrote: “This most

beautiful system of the sun, planets, and comets, could only proceed from the counsel and dominion of an intelligent and powerful being.”

Science advanced by leaps and bounds in the centuries following Newton, and scientists dialed back much of the God-talk. Many thinkers suggested that the universe runs like a mighty clockwork. Perhaps a creator was needed at the very beginning, to set it going, but surely it now runs on its own. Einstein, who often spoke of God metaphorically, took a different tack. He rejected a personal deity, but saw a kind of pantheism—roughly, the identification of God with nature—as plausible.

In the second half of the 20th century, many saw even these lesser gods as redundant. In *A Brief History of Time* (1988), Stephen Hawking speculated on the possibility that the universe had no precise beginning; his controversial “no-boundary proposal” (formulated in the 1980s with Jim Hartle) suggested that time might have behaved like space in the universe’s earliest moments. Without a “time zero,” there was no moment of creation—and nothing for a creator to do. (It’s hardly a surprise that some people who balk at the teaching of evolution also object to the teaching of big bang cosmology.)

Hawking’s materialist philosophy, shared by Weinberg and many other prominent physicists, sees the universe as arising through some combination of chance and natural law. Where Prince Hamlet saw purpose in even the minutest occurrence —“There’s a special providence in the fall of a sparrow”—many of today’s scientists see

only the impersonal laws of physics.

When I interviewed Weinberg in 2009, he told me about the long shadow cast by that one sentence on a “pointless” universe. “I get a number of negative reactions to that statement,” he said. “Sometimes they take the form, ‘Well, why did you think it would *have* a point?’ Other times people say, ‘Well, this is outside the province of science, to decide whether it has a point or not.’ I agree with that. I don’t think that science can decide that there *is* no point; but it can certainly testify that it has failed to find one.” And he specifically criticized what used to be called “natural theology”—the idea that, as the 19th Psalm suggests, one could learn about God by studying nature. Natural theology “is now discredited; we don’t see the hand of God in nature. What conclusions you draw from that is up to you.”

Although he never tried to hide his atheism—perhaps only Richard Dawkins and Sam Harris have been more vocal—Weinberg was sympathetic to those who yearn for a more intimate conception of God. “I think a world governed by a creator who is concerned with human beings is in many ways much more attractive than the impersonal world governed by laws of nature that have to be stated mathematically; laws that have nothing in them that indicates any special connection with human life,” he told me. To embrace science is to face the hardships of life—and death—without such comfort. “We’re going to die, and our loved ones are going to die, and it would be very nice to believe that that was not the end and that we would live beyond the grave and meet those we love again.” he said. “Living without God is not that easy. And I feel

and meet those needs again, he said. Living without God is not that easy, and that's the appeal of religion in that sense.”

And religion deserves credit for giving us “requiem masses, gothic cathedrals, wonderful poetry. And we don’t have to give that up; we can still enjoy those things, as I do. But I think I would enjoy it more if I thought it was really *about* something; and I don’t. It’s just beautiful poetry, and beautiful buildings, and beautiful music—but it’s not about anything.”

The philosophy that Weinberg laid out in *The First Three Minutes* is now echoed in many popular physics books. In *The Big Picture* (2016), physicist Sean Carroll sees nothing to fear in an amoral universe. Our task, he writes, is “to make peace with a universe that doesn’t care what we do, and take pride in the fact that we care anyway.” In a similar vein, string theorist Brian Greene is adamant that it’s physics all the way down. In *Until the End of Time* (2020) he writes: “Particles and fields. Physical laws and initial conditions. To the depth of reality we have so far plumbed, there is no evidence for anything else.”

As for meaning, he is firmly in the Weinberg camp: “During our brief moment in the sun, we are tasked with the noble charge of finding our own meaning.” In *The End of Everything* (2020), astrophysicist Katie Mack relays the existential opinions of an array of astronomers and physicists, most of whom repeat some version of the Weinberg-Carroll-Greene position: The universe doesn’t come laden with meaning;

instead, you have to find your own. On the second-to-last page—clearly, this is where such things go—she reflects on “this great experiment of existence. *It’s the journey*, I repeat to myself. It’s the journey.”

Weinberg saw science and religion as having nothing constructive to say to one another, a view shared by many (though certainly not all) of his colleagues. But the history of science could have unfolded differently. We can imagine generations of scientists standing with Newton, investigating nature as a path to understanding the mind of God. To be sure, some scientists think of their work in this way even today. ([Guy Consolmagno](#), a Vatican astronomer, would be one example.)



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But they are a minority. As science and religion began to go their separate ways—a process that accelerated with the work of Darwin—science became secular. “The elimination of God-talk from scientific discourse,” writes historian Jon Roberts, “constitutes the defining feature of modern science.” Weinberg would have agreed. As he told an audience in 1999: “One of the great achievements of science has been, if not to make it impossible for intelligent people to be religious, then at least to make it possible for them not to be religious. We should not retreat from that accomplishment.”

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