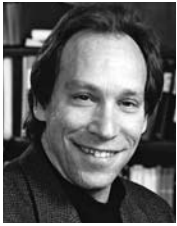


# Does the Universe have a Purpose?



*Lawrence M. Krauss*

## Unlikely.

Perhaps you hoped for a stronger statement, one way or the other. But as a scientist I don't believe I can make one. While nothing in biology, chemistry, physics, geology, astronomy, or cosmology has ever provided direct evidence of purpose in nature, science can never unambiguously prove that there is no such purpose. As Carl Sagan said, in another context: Absence of evidence is not evidence of absence.

Of course, nothing would stop science from uncovering positive evidence of divine guidance and purpose if it were attainable. For example, tomorrow night if we look up at the stars and they have been rearranged into a pattern that reads, "I am here," I think even the most hard-nosed scientific skeptic would suspect something was up.

But no such unambiguous signs have been uncovered among the millions and millions of pieces of data we have gleaned about the natural world over centuries of exploration. And this is precisely why a scientist can conclude that it is very unlikely that there is any divine purpose. If a creator had such a purpose, she could choose to demonstrate it a little more clearly to the inhabitants of her creation.

One is always free, as some people do, to interpret the laws of nature as signs of purpose, as for example Pope Pius did when Belgian physicist-priest George Lemaitre demonstrated that Einstein's general theory of relativity implied the universe had a beginning. The Pope interpreted this as scientific proof of Genesis, but Lemaitre asked him to stop saying this. The big bang, as it has become known, can be interpreted in terms of a divine beginning, but it can equally

be interpreted as removing God from the equation entirely. The conclusion is in the mind of the beholder, and it is outside of the realm of scientific theory and prediction.

Finally, even if the universe has a hidden purpose, everything we know about the cosmos suggests that we do not play a central role in it. We are, as a planet, cosmically insignificant. Life on Earth will end, as it has probably done on countless planets in the past, and will do in the future. And all the stars and all the galaxies we see could disappear in an instant and the universe would go on behaving more or less as it is doing right now. Nature seems as uncaring as it is unyielding.

Thus, organized religions, which put humanity at the center of some divine plan, seem to assault our dignity and intelligence. A universe without purpose should neither depress us nor suggest that our lives are purposeless. Through an awe-inspiring cosmic history we find ourselves on this remote planet in a remote corner of the universe, endowed with intelligence and self-awareness. We should not despair, but should humbly rejoice in making the most of these gifts, and celebrate our brief moment in the sun.

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