

Does the Universe have a Purpose?



Bruno Guiderdoni

Absolutely.

Modern science has produced something quite unexpected. Even to a scientist such as myself. It turns out that the observed features of the natural world appear to be fine-tuned for biological complexity. In other words, everything from the mass ratios of atomic particles, the number of space dimensions, to the cosmological parameters that rule the expansion of the universe, and the formation of galaxies are all exactly what they need to be to create stars, planets, atoms, and molecules.

But where does this apparent fine-tuning come from?

Is it the manifestation of a plan for the universe? An arrangement by a superior will to prepare the way for complex creatures? Is it God's signature? People of faith believe it is so. They read purpose in the universe as a painter sees beauty in a view on the ocean.

However, for scientists, final causes don't explain enough. We must go one step further, and examine alternative explanations to the fine-tuning idea. One such idea is called the multiverse. It states that we don't live in a universe fine-tuned for life so much as we happen to live in a universe, one of many, that by a cosmic accident just happens to be the kind that supports biological life. In other words, we're not special, we're just lucky.

Recent discoveries in particle physics point to this. Remember, our observable universe is just a tiny region among a large variety of regions, each with different properties. And many of these regions in the universe are sterile and inhospitable and thus lifeless (which makes it especially difficult for them to be observed!). Thus, say some scientists, there is no fine-tuning. And likewise, there is no purpose.

But I don't agree. The fundamental scientific theories that support the multiverse require complex mathematics. The fact that these fundamental theories are even accessible to our brains, which, in a purposeless universe would be nothing but a by-product of our ability to find prey (and avoid being prey), in the millennia of *Homo sapiens*' evolution is something I find quite . . . puzzling.

The reality is that we are able to contemplate such questions. And the bigger the questions our brains can ponder, the more unlikely that the cosmic drama we are all participating in is simply a cosmic lottery.

This is why, at the end of the day, I can't refrain from thinking that there actually is purpose in the universe.

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