

Always Be Ready to Give a Defence (6)

Background

In previous weeks, we considered two questions: why is there something rather than nothing, and how did the universe begin to exist? We argued that the most plausible explanation for the existence of the universe is God. This week we are going to consider a similar question: why is the universe fine-tuned for life?

Questions

One of the most basic reasons to believe in God comes from observing the vast, complex and ordered universe in which we live.

- How does King David respond to what he sees (Ps 8, 19, 97; see also Isa 40v25-26 and Rom 1v20)? Should increased scientific knowledge change our understanding?

Science helps us to understand the vastness of space. It also teaches us that the universe is fine-tuned for life. Stephen Hawkin refers to this in *A Brief History of Time*:

The laws of science, as we know them at present, contain many fundamental numbers, like the size of the electric charge of the electron and the ratio of the masses of the proton and the electron... The remarkable fact is that the values of these numbers seem to have been finely adjusted to make possible the development of life. For example, if the electric charge of the electron had been only slightly different, stars either would have been unable to burn hydrogen and helium [and so there would be no light], or else they would not have exploded [and so there would be no heavier chemical elements]...

Estimates vary about the extent of fine-tuning. Paul Davies, a theoretical physicist, states that a change in the *weak force*, which operates inside the nucleus of an atom, by one part in 10^{100} would have prevented a life-permitting universe. Similarly, Hawkin states that a change in the cosmological constant that drives the

acceleration of the universe's expansion by one part in 10^{120} would have rendered the universe life-prohibiting. However, Roger Penrose estimates that the fine-tuning of the universe is more like $10^{10(123)}$. In any case, even if a universe could develop from nothing, it would be extraordinarily unlikely that such a universe would be life-permitting universe.¹

Someone could argue that the only universe we can observe is a life-permitting universe (this is known as the *anthropic principle*). So, they might say, we should not be surprised that we live in a life-permitting universe. But this does nothing to reduce the fact that it is still staggering that our universe is so highly fine-tuned.

Someone else could suggest that the universe *must* be the way that it is because no other values for the universal constants are possible. But there is no scientific evidence for this.

It therefore seems that the most plausible explanation for the fine-tuning of the universe is that it has been designed to support life.

We could express what has been said in the form of a logical argument:

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| Proposition 1 | The fine-tuning of the universe is due to physical necessity, chance, or design. |
| Proposition 2 | It is not due to physical necessity or chance. |
| Deduction | Therefore it is due to design. |
| | (from Proposition 1 & Proposition 2) |

Application

An intuitive belief in God that comes from observing the universe is not contradicted by science. This should encourage us to investigate the wonder of the universe and to respond in praise.

¹ See William Lane Craig, *On Guard: Defending your Faith with Reason and Precision*.