Thank you, Walter, for a fascinating tour of the cosmological constants. We all join you in feeling the awe and wonder at the marvelous universe we have the privilege to study. It is this sense of passion for the beauty of nature that led most of us to be scientists in the first place. The cosmological constants are among the most amazing of all our observations.

I would, however, respectfully differ on the metaphysical implications of the cosmological constants. Specifically, I believe that the amazing precision of all these constants does not offer evidence for the existence of God. To explain my reasoning, I offer three points for consideration.

First, how did the cosmological constants acquire their values? It is natural for us to envisage an engineer in a machine shop shaping a very precise dimension or a piano-tuner tightening the piano strings for a precise tone. Or perhaps the engineer threw some cosmic dice with infinite dimensions and miraculously obtained just the right precise values. In these analogies, such precision seems beyond natural possibilities. But it is almost certain that these anthropomorphic images are not accurate. We simply don’t know how these constants acquired those values. We don’t know whether the entire infinite set of real numbers are possible values or if they are quantized and interdependent. Roger Penrose can estimate numbers like $10^{132}$ as possible probability values but we really do not know how the values are selected or acquired. Assessing probabilities requires a rudimentary understanding of mechanisms but in this case, we don’t have any idea. How can scientific ignorance be evidence for anything?

Secondly, what causal agent was responsible for the cosmological constants? Philosophers of science, like Michael Scriven for example, tell us that to ascribe a causal agency to a historical phenomenon, we must be able to independently show that the causal agent existed at the time of the phenomenon and that the agent is able to produce the effect of that phenomenon. The fine-tuning argument champions have not shown that a divine agent existed or that such an agent was capable of establishing the value of the cosmological constants. Hence it is not feasible for a phenomenon which we do not understand to be evidence for a cause that is not otherwise known to exist or to be able to produce that effect. Scientific ignorance is not grounds for evidence.

The two points I have mentioned are strictly within the observable constraints of scientific methodology. Some would call this scientism and would argue that we need to consider the validity of knowledge beyond the strict limits of scientific perspectives. So let’s broaden our horizons, presuppose that God exists and is able to produce natural phenomena and then consider the effect of integrating science and religion to determine the existence of God.

In my third point, I would argue that Walter takes a different approach to integrating science and religion than I. It seems to me that he has a model of integrating science and religion that positions theological causes as being comparable to natural causes in explanatory power of natural effects. That is, theological causes can be equally satisfactory explanations of natural effects as natural causes. Thus theological and natural causes compete as mutually exclusive explanations in a broader world of science.
plus religion. The presence of one precludes the other. If there is a scientific explanation, then there is no theological cause. If no scientific explanation is possible, then there must be a theological cause.

What is the basis for this kind of argument? Historian Mark Noll has traced it back to thirteenth century philosophy. Of the three best known 13th century philosophers, most of know Thomas Aquinas. But there was also William of Ockham from whom we get Ockham’s razor, that law of parsimony that tells us that of competing explanations, the simplest is the one that is correct. The third philosopher was John Duns Scotus who gave us the idea of a “single essence of being.” This means that God is the only essence of being and all of our human characteristics are of the same essence as God’s characteristics. For example, human “goodness” is of the same essence as God’s “goodness.” It may differ in degree but not in kind. This is sometimes called the univocity of being, or “one voice” of being. Filtered through the centuries and applied to our scientific era, univocity means that theological causes have the same essence as natural causes, a univocity of causes. Combining univocity of causes with Ockham’s razor, we derive the idea that theological and natural explanations are of the same kind and are mutually exclusive. They cannot both be correct. It must be either God or a scientific cause.

This form of univocity has become a major pillar in scientific apologetics. Theists point to aspects of the universe that cannot be explained and argue that these aspects are evidence of a divine creator. For example, they point to the lack of a scientific explanation for love, for altruism, for the origin of life, for the origin of consciousness, and for the amazing precision of the values of the cosmological constants and thereby argue for the existence of God. They confidently assert that these phenomena could never be explained in scientific terms. In turn, atheists point to aspects of the universe that do have a scientific explanation to show that God is not needed and therefore does not exist. Aspects that cannot yet be explained are confidently asserted to be explainable in the future. Meanwhile, agnostics, like the two authors of the advanced reading material, seem to use univocity of causes to dampen the expectations. They point out that God has not been disproven since the scientific explanations offered for these phenomena are not compelling. The implication is that if the scientific explanations were to be found, God would be disproven. Furthermore, they appear to be open to divine explanations as potentially acceptable alternatives if scientific explanations are not found. All of these positions reinforce and rely on univocity.

In contrast, I would prefer a model of integration of science and religion in which theological causes are complementary to natural causes. That is, theological and natural causes are not univocal since they are not of the same essence. In this view, divine causes are the ultimate or first causes of all things. These ultimate causes do not constitute or compete with but complement the immediate or secondary causes that we describe scientifically. Theological and scientific causes are then not mutually exclusive. It is a “both…and…” situation rather than “either…or…” The most common illustration of this view, given by Douglas Spanner and often repeated by John Polkinghorne, is that of water boiling in a tea kettle. A complete thermodynamic explanation can be provided from the source of heat to the phase transition of the water. Or one can explain why the water is boiling by noting that “I want some tea.” These explanations are not competing but are complementary. They are not non-overlapping magisterial as Steven J Gould would suggest, since the two explanations do connect with each other. The person wanting tea must be able to arrange the proper heat source.

Many people are bothered by this view because it removes that major pillar of scientific apologetics. The absence of a scientific explanation can no longer be an argument or evidence for the existence of God.
Nor can the presence of a scientific explanation be a basis for the absence of God. Science, limited to its own borders, then becomes inherently agnostic, giving us no evidence for the existence or non-existence of God.

You may reasonably wonder why, if I take this perspective on integrating science and religion, am I a theist and not an agnostic. In reply, I would make this observation. While I do not find my theology in science, I do find science in my theology. The monotheistic doctrine of creation provides a strong rationale for the existence of the universe and for its comprehensibility. Why does mathematics work? Why can we explain the evolution of the universe? Why do we humans exist?

From my perspective, though the incredibly precise cosmological constants do not provide evidence for the existence of God, the concept of God as Creator of all things does provide a rationale for the very existence of cosmological constants as well as the existence of all of us and our chosen vocation. Scientific comprehensibility is much more closely correlated to the existence of God than scientific ignorance.

I close with a quote from CS Lewis, in “Is Theology Poetry”: “I believe in Christianity as I believe that the Sun has risen, not only because I see it, but because by it I see everything else.”

Thank you.