

## John Polkinghorne

### “Science and Faith in Understanding Reality”

Episode 30 of The Advent of Evolutionary Christianity

EvolutionaryChristianity.com

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**John Polkinghorne** is both a theoretical physicist and an Anglican priest. He is internationally recognized for his contributions to the study of theology and science. He is the author of five books on physics and 26 on issues in science and religion and was awarded the Templeton Prize for contributions in science and religion.

#### HIGHLIGHTS

John Polkinghorne excels in **succinct statements and explanations of deep philosophical issues**, including **materialism v. theism**, the inescapability of foundational beliefs (**metaphysics**), and the presence of “**motivated belief**” in both science and religion. There is no better episode in this series for examining **the key distinctions between science and religion**, problems of **incommensurability in worldviews**, and the role of both **rationality and emotion** in how we choose our beliefs/worldviews. Polkinghorne also forthrightly presents and supports **his belief in a personal God who intervenes in the world**. He also speaks of **Jesus as “the human expression of God”** and **Eucharistic worship** as accessing “the presence of **the risen Christ**.” Polkinghorne and the host (Michael Dowd) candidly present differing views on **the role of death and the possibility of an afterlife**, making this the best episode to propel classroom or group discussion of those topics.

#### SUGGESTED AUDIENCES

Highly recommended for seminarians and college or graduate students in philosophy or religion. Note: Because of Polkinghorne’s elder British speaking style and less-than-ideal audio quality, this is one of the more difficult episodes to listen to — although the transcript is easy to read. Indeed, some segments of his responses (especially his technical science explanations) were eliminated because our audio editor could not discern the words.

## BLOG COMMENTS

### Ellen S. says:

Sir John's faith is nuanced and informed by his deep understanding of the physical world. I love how you both highlighted the Eucharistic Table as a source of inspiration and a continued resource for faith and spiritual practice."

### Connie says:

It has been a joy to hear several of the speakers speak so forthrightly about the 'fears' (or 'concerns') that their sense of what a wholly naturalistic perspective on the universe would call forth. John Polkinghorne graciously spoke of his. As I heard Sir John's, they are fundamentally concerned that an exclusively naturalistic view of the death of individuals, of the ultimate death of life on this planet (when our sun becomes a red giant several billion years from now), and of the 'heat death' fate of this universe (trillions of years from now) seem to confront one with an unacceptable picture. Hence the biblical Christian solutions to these discomforts is a crucial grounding for his personal worldview.

### Pastor Andy Schottelkorb says:

Another good conversation. I had heard the 'Science asks *how*, Religion asks *why*' explanation before, and appreciated hearing it afresh from John. It may be a bit reductionist, but still is a fruitful way to address the kinship, and perhaps the possible friction, between science and religion.

## KEYWORD TOPICS

**Anglican ministry, particle physics, unity of knowledge, evidential understanding of reality, integration of science and religion, truth** (search for via science and religion), **"motivated belief"** (in both science and religion), **transpersonal reality of God, *how v. why* questions** (in search for truth), **testing v. trusting, relating to reality, spirituality, quantum entanglement, relationality in nature** (as fundamental), **personal relationship with God, acts of divine disclosure** (by God), **religious gifts v. the error of magic, Jesus** (as God present in human form), **prayer** (power of), **scripture reading, Eucharistic worship, rational order of the universe, sense of wonder, music** (as example of deep dimension of experience), **personifying God/reality** (importance of), **the world as expression of the mind of God, God's purpose, God's will, God's good and perfect world, metaphysics, worldview, interpretation, materialism v. theism** (as grounding metaphysical assumptions), **evidence as divine communication, New Atheists, Intelligent Design** (critique of), **Charles**

**Kingsley, evolutionary processes** (God acts through), **God of Love, deep-time eyes, trust, gratitude, the “fruitfulness” and the “ragged edges” of evolution, self-conscious awareness** (as pinnacle of evolution), **cancer** (its necessity), **Steven Weinberg, heat death of the universe, death of individuals, afterlife, second law of thermodynamics, death** (creative role of), **death as natural and generative, Nicene Creed, quantum theory** (relevance for theology), **care for Creation, environmental ethics**

## **BIOGRAPHY**

**John Polkinghorne** won the Templeton Prize in 2002 for contributions in science and religion. Both a theoretical physicist and an Anglican priest, he is one of the giants in the science and religion movement. He is the founding president of the International Society for Science and Religion and a founder of the Society of Ordained Scientists. He is the author of five books on physics and 26 books on the relationship between science and religion. He began his research and teaching career in the late 1950s at the University of Edinburgh, later serving as a professor at Cambridge.

He resigned his professorship in 1979 to pursue theological studies and ordination in the Church of England. He served two years as a parish priest in Bristol and then as a vicar in Kent before returning to academia in 1986, becoming Dean of Trinity Hall, Cambridge. From 1999 until his retirement in 1996 he was president of Queens' College in Cambridge.

Polkinghorne is the founding president of the International Society for Science and Religion and he is one of the founders of the Society of Ordained Scientists. Among his books that combine theological inquiry with scientific investigation are: *The Faith of a Physicist; Quarks, Chaos and Christianity; Theology in the Context of Science; Questions of Truth* (with Nicholas Beale); *Living with Hope: A Scientist Looks at Advent, Christmas and Epiphany; Exploring Reality; The God of Hope and the End of the World; Quantum Physics and Theology*; and *Belief in God in an Age of Science*.

## **SUPPLEMENTARY VIDEOS**

“Rev. Dr. John Polkinghorne Talks About Science and Religion” (7 minutes)

<http://www.5min.com/Video/Rev-Dr-John-Polkinghorne-Talks-About-Science-and-Religion-516939666>

“An Afternoon with John Polkinghorne” (58 minutes)

<http://www.youtube.com/watch?v=nFrYXr8JYgU>

## QUESTIONS FOR REFLECTION AND DISCUSSION

1. **Personal story.** As with all episodes in this series, host Michael Dowd asks his guest, John Polkinghorne, to summarize his science and faith journey. Polkinghorne talks about his love of mathematics and how that led him to become a theoretical physicist. He then talks about a major shift in career — from science into religion. He says,

In these mathematically based subjects, you don't get better as you get older. I felt that by the time I passed my 45<sup>th</sup> birthday, I had probably made most of the contributions I would be able to make [in particle physics]. . . After thinking about it and praying about it and talking to my wife about it, I **decided to become an Anglican Priest**. I felt it was the next thing for me to do—which I did. I resigned my Chair in Cambridge, and I trained for the Anglican Ministry, and worked in parish life for about five years.

I realized, then, that there were bits of me—the academic and intellectual side of me—that weren't being greatly exercised in this. So I came back into the academic world, back to Cambridge. For the last 25 years, my principal intellectual interests and occupation have been thinking about **how science and religion relate to each other**. I want to take both of them absolutely seriously. I didn't leave science because I was disillusioned with it. **Christianity has always been central to my life**. I'm a passionate believer in **the unity of knowledge** and I want to hold those two sources of insightful understanding in proper balance with each other, and to benefit from both of them.

**Question 1:** *What most struck you (or surprised you or moved you) in John Polkinghorne's telling of his personal journey in science and religion?*

2. **Science and religion as different dimensions of truth.** John Polkinghorne distinguishes the two realms of science and religion in this way:

I think science and religion are **friends and not foes**. I think basically they're friends because they're both concerned with the search for truth. They are obviously concerned with different dimensions of truth, and they ask different questions about the world. **Science, essentially, is asking the question of how things happen**—what are the processes of the world. **Religion is asking**, to my mind, the deeper and more interesting question, which is **why things happen**—the meaning and purpose and value at work in the world.

If I am to understand the world, I need both those sources of insight. The way I answer the two sets of questions, the *how* and the *why*, though they are different questions, they have to fit together in a way that is consonant with and makes sense of each other. So that's how I see the relationship between the two.

**Question 2A:** *Do you find John Polkinghorne's way of distinguishing science and religion to be useful? Why or why not?*

**Question 2B:** *What might be another way to distinguish the domains of science and religion? For example, if you were to focus on the **methods** of truth-seeking that are given primacy in each domain, how would you then describe their major differences?*

3. **Choosing theism over materialism as “the unexplained starting point.”** John Polkinghorne briefly explains why, from a science-based perspective he chooses theism over, what he calls, materialism. He says,

The different metaphysical positions differ by what they treat as their **unexplained starting point**. Every metaphysical position has to rest on a basic brute fact which is the basis of its understanding. All else then flows from that. There are **two choices**. One is **materialism**, which takes the laws of nature as your brute fact, and matter as your brute fact. The other is a **theistic** position, which says the divine agent, the Creator, is the brute fact on which we rest our understanding of the world. When I think of the richness of our experience on many levels, and I think about **the importance of personal experience**, as well as the *impersonal* experience that science discusses, it seems to me overwhelmingly much **more persuasive just to take the will of a divine agent** as the basis for understanding the world, rather than just the brute facts of matter, which seem to me actually to have such properties of intelligibility and fruitfulness that it points beyond itself and demands further explanation.

To me, the most natural way of understanding this is to see the world as a Creation. For example, **the deep order of the world that science explores is an expression of the mind of God**. The fantastic fruitfulness across history, which started 13.7 billion years ago in a ball of energy, is now the home of saints and scientists and to which we look for **God's purpose**. I think our experiences of **joy** are shared in the Creator's joy and our **ethical knowledge**, our intimations of God's good and perfect world, are all integrative, making sense of everything. For me, it is religiously deeply satisfying.

**Question 3A:** *On the matter of science and religion, it is not uncommon for experts, such as Polkinghorne, to lay out a spectrum of possible belief that runs from **theism** to (what he calls) **materialism**. Where do you, personally, reside on that spectrum of belief (or on some other spectrum that may seem more relevant to you)? What is **your own preferred term** for identifying where you reside on such a spectrum? (Some possibilities for additional terms include **agnostic, emergentist, spiritual-but-not-religious, pantheist, panentheist**).*

**Question 3B:** Polkinghorne **identifies as a theist**. His explanation for his choice of worldview entails **both a rational and an emotional component**. On the **rational** side he says, “It seems to me overwhelmingly much more persuasive just to take the will of a divine agent as the basis for understanding the world, rather than just the brute facts of matter.” For his **emotional** reason he says, “For me, it is religiously deeply satisfying.” **SO THE QUESTION IS:** *If you were asked in one sentence (or paragraph) to give a **rational** reason for your own belief (or unbelief) and in another single sentence (or paragraph) to give an **emotional** reason, what might you say?*

**Question 3C:** *Overall, how important is it for each of us to be aware of and acknowledge both the rational and emotional reasons for our choice of worldview/metaphysic? Are **rational reasons** simply something we invent in order to **justify emotional reasons** that hold primacy?*

*Or do you think rational understandings play a bigger role in your choice of worldview? Indeed, are we even capable of **honest self-scrutiny** in this regard? Please explain.*

**Question 3D:** *Do you respect Polkinghorne more or less for his **identifying both rational and emotional reasons for his faith**? Say more.*

4. **Music as an example of the deeper dimensions of reality.** Polkinghorne gives an example of an aspect of human experience for which its **emotional** aspect is obviously the reason that we value it. He says,

I think there are these deep dimensions of every experience. One of my favorite examples is music. If you were to ask a scientist as a scientist to tell you all that he or she could about music, I'd guess they'd have to say that it's a neural response (something that goes on in our brains) to the impact of sound waves on the eardrum. Now, of course, that's true—and in its way, it's worth knowing. But there's very much more to music than that. There's **a very deep mystery in music by which this pattern of sound, which comes to us beat after beat, can magically speak to us truly of a timeless realm of beauty** we encounter in that sort of way.

It's very important in our encounters with reality and our thinking about reality in the world in which we live to **take seriously all these dimensions of experience**. Physical science, by itself, merely describes something like **a lunar landscape**. It has information-processing, replicating systems in it. It doesn't have any persons in it. **You need to take these personal dimensions about experience extremely seriously—they are not just froth on the surface of what really exists**, atoms and molecules banging into each other. They are absolutely significant and an indispensable part of reality.

**Question 4:** *What came up for you upon encountering Polkinghorne's description of **the "deep dimensions" of music** and what this implies for how we deal with the science-and-religion issue?*

5. **"Everybody has a metaphysic."** In his home country of England, John Polkinghorne has, for decades, been a radio, television, and stage presence on the topic of science and religion. He has participated in highly intellectual and courteous debates—even with England's most outspoken atheist and one of its most respected scientists: **Richard Dawkins**. On the matter of media interest in the science and religion issue, Polkinghorne says,

**The media like confrontation.** They like to portray the interaction of science and religion as a battle of the fundamentalists on both sides. I say, "A plague on both their houses!" I want to be in the middle. If the question really is metaphysics, scientists very often don't like the word metaphysics. They often say, "I have no truck with metaphysics—just the facts are all I need." But that, of course, is just ridiculous. **Everybody has a metaphysic, because everybody has a worldview**—and that's what metaphysics means. We think metaphysically every time we interpret the whole of experience; it is necessary and inevitable. Everybody has a metaphysic.

**Question 5A:** *Where do you stand on the claim that "everybody has a metaphysic"?*

**Question 5B:** Human beings, in general, **value evidence** wherever it can be found and wherever it is of practical use. We all value the evidence science has gained about aerodynamics when we board a plane. We all value evidence when it comes to fuel efficiency in our vehicles, ingredient labels on processed foods, antiseptic methods of surgery, best practices for helping children learn to read, the efficacy of immunizations, and so on. Nonetheless, there are aspects of living and being in this world that are so complex that good-hearted, thoughtful people may profoundly differ in their views: we see this in politics and we see this among professional economists and social pundits. We see this in disagreements between couples on how to responsibly manage a life together, raise children, save for retirement, allocate time between work, play, and community service, and so on. On all of those matters of difference, it may be helpful to dig down to fundamental principles so that the differing parties can at least come to respect one another's positions, even if they continue to disagree. *SO THE QUESTION IS THIS: Whether or not you agree with Polkinghorne's approach to weaving together his scientific and religious worldviews, **can you step into his worldview and appreciate why he holds it?** Specifically, what aspects of his foundational belief — his axioms of faith, his "metaphysic" — seem robust to you? And which do you find confusing or less than compelling?*

**Question 5C:** When people who hold very different worldviews attempt to understand one another, very often **language** (and its multiplicity of interpretations) gets in the way. Each party may use a word but mean very different things by it. Philosophers also caution that worldviews may not only be different but actually "**incommensurable**" — meaning that mutual understanding is nearly impossible. Think, for example, of someone who is colorblind attempting to understand why the distinction of red and green is important to someone who is not colorblind. *SO THE QUESTION IS: Search for some part of this interview where either John Polkinghorne's or Michael Dowd's contributions have **helped you better understand some aspect of the science-and-religion issue** — regardless of whether you happen to agree with him or not. That is, search for something in this dialogue that **helps you to better understand** how a worldview different from your own makes rational or emotional sense. Then briefly describe what you learned.*

6. "**Motivated belief**" in both religion and science. Polkinghorne is well known for his concept of 'motivated belief', and he refers to it several times in this interview. Here is how he introduces it:

**I believe that the way we find truth is through motivated belief.** I believe that I have motivation for my **scientific beliefs** and am quite happy to explain those to people if they want to hear about them. I also believe I have motivation for my **religious beliefs**. I have a fair number of friends in the academic world who are both wistful and wary about religion. They're **wistful** because they feel science doesn't answer every question about this rich and many-layered world in which we live. But

they're **wary about religion** because they think that religion is based simply on submission to authority—shut your eyes, grit your teeth, believe these impossible things which some unquestionable authority says: that's what you've got to do. And, of course, they don't want to commit **intellectual suicide**. Neither do I.

I always try to show them that **I have motivations for my religious beliefs, besides my motivations for my scientific beliefs**. Of course those are different *kinds* of motivations, and they may think those motivations are not adequate. That's for them to decide. But the motivations are there, and they need to take them into account. So when various **New Atheist** authors say that religious people believe *against* the evidence and that sort of thing, that's just an untrue caricature. I believe **the question of truth is as central for religion as it is to anything else**.

Here are two more quotations where Polkinghorne explains what 'motivated belief' is and why he thinks it is important in the science-and-religion dialogue. He says,

The search for truth is to be obtained through *motivated belief*. It's a different kind of truth we're looking at, and consequently the kinds of motivation that support it will be somewhat different. **Science has access to the experimental methods**; it can put things to the test, kick things around, find out what they're made of. In many other forms of encountering reality—both between ourselves as persons and also with the **transpersonal reality of God—testing has to give way to trusting**. If I were always testing to see if you were my friend, I would destroy the possibility of friendship between us. Equally, you shall not put the Lord your God to the test. It's just a fundamental fact for the spiritual life. So there are differences between the two, but they are, as I say, friends and not foes. They need each other.

. . . How we relate to the **physical world**, in one particular way, is that we can transcend it: **we can put it to the test**. We can use the wonderful secret weapon of **experimentation** to find out what's going on. Between **persons** we have to have a different kind of contact. We have to be **respectful of the integrity of the other person**. We have to meet in terms of **mutual trust**, rather than in terms of manipulation and testing in that sort of way. And, of course, even more so is that true when we meet **the transpersonal reality of God**, who transcends us.

**Question 6:** *Do you find John Polkinghorne's concept of 'motivated belief' helpful in your own quest to understand the science-and-religion dialogue and for developing your own personal stance on topics relating to science and religion? Specifically, what aspects of his explanation did you find most helpful — and where do you disagree or fail to follow the logic of his argument?*

**7. Quantum entanglement and relationality.** Quantum physics has become a very popular scientific grounding for spiritual or religious belief in modern culture. Polkinghorne has a depth and professional understanding of this field, and he briefly mentions it in this dialogue as supportive of his religious belief. He says,

One of the big and amazing discoveries in 21<sup>st</sup> century science was something called **quantum entanglement**, which says that when two photons, for example, two quantum particles, interact with each other, after the interaction they remain mutually entangled with each other. One of them might go very far away, but nevertheless **the two retain an instantaneous power of influence**



**upon each other.** If I do something to the photon that was left behind in the laboratory, it will have an immediate consequence for its partner photon, say, behind the moon. So **even at the level of basic physical constituents there is a deep-seated relationality.**

**Question 7:** *Is quantum physics an important factor in where you reside on the science-and-religion spectrum? Why or why not?*

8. **Science, wonder, and praise for the Creator.** Polkinghorne explains,

Theoretical physicists use a word quite frequently in conversations but, of course, they never use it when they write papers for the learned journals; the word is “**wonder.**” As you learn a bit more through the discoveries of your community—about the deeper, marvelous structure of the world—that sense of wonder is a reward for all the labor and effort involved in doing scientific research. I believe that **sense of wonder is actually a worshipful experience.** It’s **praise of the deep and wonderful mind of the Creator** that lies behind the marvelous order of the universe.

**Question 8A:** *To what extent has scientific knowledge **enhanced the wonder you feel** about nature, the universe, the human journey?*

**Question 8B:** *Bring to mind a particular instance when scientific understanding enhanced an experience that felt, in either a spiritual or a secular way, worshipful. Said another way, recall an instance in which **scientific understanding drew you into deeper communion** with a particular event or experience. Briefly describe that experience and the aspect of science that enhanced it.*

9. **Spirituality as “right relationship to reality.”** This dialogue is one of the more academically grounded and intellectual conversations in the entire set of 38 conversations in this “Evolutionary Christianity” series. As host, Michael Dowd often searches for the practical side of this topic. Notably, Dowd periodically offers his own definition of spirituality, and it is a definition that steers entirely clear of metaphysics and church doctrine. In this particular episode, **Dowd** says,

One of the things that we’ve learned about the nature of the universe is that it’s all **relationship.** To think about how we are going to relate to our world—how we are going to relate to both the material and the nonmaterial aspects of reality—is one of the most important questions that a person asks in their lifetime. In fact, from an evolutionary perspective, I’ve come to understand **spirituality as the practices and exercises that lead me and support me in being in “right relationship to reality.”** How do we come into right relationship to reality at all nested levels? How do we be in right relationship with our parents, with our children, with our siblings, with our neighbors, with our co-workers, our colleagues? How do we be in right relationship with the air, the water, the soil, and other species of our bioregion? How do we be in right relationship with the planet? I think **these are fundamental questions that aren’t merely secular questions.** These are religious questions. These are questions that I think our faith should support us in answering in ways that allow us to live in deepest integrity.

**Question 9:** *Is Dowd's definition of spirituality as the practices that lead one to live in "right relationship to reality" something that resonates with you? How so, or why not?*

10. **Evolution as "the way that God allows creatures to make themselves."** Although Polkinghorne is a physicist, as a major contributor to science-and-religion dialogue he is also well acquainted with the science of biological evolution. To this he consistently brings religious interpretations. For example, in explaining why he disagrees with proponents of what is called "Intelligent Design," Polkinghorne concludes by saying,

"The God who is the Creator of nature acts as much through natural processes as in any other way—by and large in evolutionary processes. A great English thinker and friend of Charles Darwin, Charles Kingsley, said that **the evolutionary process is "the way that God allows creatures to make themselves."** God has endowed the world with this fantastically deep potentiality, and now allows creatures to explore and bring to birth that potentiality in their own sort of way. That's the theological way (in a nutshell, it seems to me) to think about an evolving world—and I think that's a very deep and very satisfying theological way of thinking about what's going on in the world."

**Question 10:** *Do you appreciate for yourself and/or the culture at large the way that John Polkinghorne consistently and openly **weaves religious interpretations into the processes of nature** as understood via science? Why or why not?*

11. **How the "God of Love" acts in the world.** Polkinghorne expressly talks of "the Christian God" and "the God of Love." He says,

**The Christian God can neither be just an indifferent spectator**, having set it all going and now just watching what will happen. Equally, the Christian God **cannot simply be a cosmic tyrant** whose Creation is simply a puppet theater in which the Creator pulls every string and creatures just dance to the Divine tune. **The Creation** in which creatures are allowed to *be* themselves and invent themselves is, if I venture to say so, **the most fitting form of Creation the God of Love could have brought into being.**

**Question 11:** *What comes up for you in reflecting on this one brief (and potent) paragraph?*

12. **Evolution: both the "fruitfulness" and the "ragged edges."** John Polkinghorne evaluates the Universe/Creation as expressing both "fruitfulness" and "ragged edges." He explains,

**The scientific story of the universe is a story of an incredible evolving and developing fruitfulness.** If you ask what's the most astonishing thing that's happened in the 13.7 billion year history of the universe (that we know about, anyway) it has been the dawning of self-conscious beings here on Earth. **In our ancestors, the universe became aware of itself, and science itself became a possibility.** So it is a world of great fruitfulness, and therefore seems to hold meaning and purpose in it. There's also, of course, much frustration and wastefulness as well. And that's one of the problems, I think, that the evolutionary view has to face. Evolutionary theory tells us we start with bacteria and end up with human beings. On the other hand, there is a tremendous tale of **extinctions and wastefulness and suffering** on the way.

**Question 12A:** *To what extent do you acknowledge both the “fruitfulness” and the “ragged edges” of the Universe/Creation? Personally, what aspects of the universe call to mind “fruitfulness” for you? That is, in what circumstances do you experience the generative, positive side of the evolutionary journey? In contrast, what comes to mind in what you have learned about or even experienced on the “ragged edges” of evolution?*

**Question 12B:** *Have you been able to embrace the ragged edges of evolution, or do you try to focus only on the beautiful and generative side? Overall, is this a universe you can fully say yes to? Or is there a sense that at least some of it shouldn't be this way?*

13. **Cancer as “a necessary result” of evolution.** Polkinghorne not only points out the “ragged edges of evolution” but he finds a way to interpret them so that **our fear or repulsion** of them lessens. The main example of a “ragged edge” to evolution that he offers is, what he calls, “the anguishing fact of cancer.” He says,

The process underlying evolution is, of course, genetic mutation—producing new forms of life, which are then selected and preserved through natural selection. But **it's inevitable that if some germ cells are able to mutate and produce new forms of life, other cells—body cells, somatic cells—will also be able to mutate; and sometimes when they do that, they will become malignant.** So the anguishing fact of cancer in the world is not gratuitous. It's a necessary result of the process by which creatures make themselves. Now, I don't suggest that removes all **our anger and anguish** we feel about the way the world is. But it is, I think, helpful in that respect.

**Question 13:** *Does it make a difference to you in how you think about cancer to hear a scientific explanation of why evolution could not happen without it? Why or why not?*

14. **Death: the dark side.** Polkinghorne speaks at length about how his Christian perspective helps in facing both the fact of his own death and the fact that the Universe will ultimately die, too — albeit trillions of years in the future. Here is an excerpt of what he says:

We all know that in the end **all the processes of this world will end in futility.** We are all to die on timescales of tens of years. The universe is going to die, to become ever more cold, ever more dilute. . . . But of course I also have a theological story of God's faithfulness. **I believe there will be a destiny beyond death, for us individually and also for the universe itself**—not because that's a natural expectation but because of the faithfulness of the Creator. Beyond the death of this world there will be the life of the world to come. So I think we have to also have that element of **hope**, that element of **trust** that in the end nothing of good will be lost but will be transformed in the path and the purpose of the Creator.

**Question 14A:** *To what extent is the fact of your own ultimate death and that of your loved ones disquieting for you? And have you generated for yourself a theological or secular way to feel okay about our unavoidable fate?*

**Question 14B:** *To what extent does the eventual “heat death” of the Universe trouble you? And can you understand why Polkinghorne, a physicist, values his theological worldview for helping him accept that the Universe, too, will die?*

15. **Death: the bright side.** Dowd counters Polkinghorne’s depiction of the dark side of death in that Dowd does not need to look to the Christian faith for offering the possibility of something beyond the material fact of death at either the individual or the universe level. Instead Dowd says,

We can understand, for example, that if it weren’t for **the death of stars**, there would be no Periodic Table of Elements; there would be no planets, there would be no life. If it weren’t for **the death of mountains**, there would be no healthy soil. If it weren’t for **the death of fetal cells** in the embryonic stage of development, we would all be spheres. If it weren’t for **the death of plants and animals**, there would be no food, and on and on. . . This cosmic understanding that death is no less sacred than life, to use that kind of language, that **death is natural and generative at all levels of reality**: I’ve seen how that allows people to look at the possibility and the reality of death from a different sort of place. It allows us, at least allows *me*, to **trust the process** and to recognize that, yes, even when the entire universe achieves a heat death, that I don’t see that as futile. . . If that’s part of the way reality is actually structured, I can say yes to that. **That’s a universe I can say yes to**, even though I don’t know rationally what that means.

**Question 15A:** *Whose viewpoint about death do you lean more toward: Polkinghorne’s or Dowd’s? (See Dowd’s blogpost, “[Thank God for Death](#)” for a further articulation of his view.)*

**Question 15B:** *Did this dialogue shift your perspective or comfort level about the prospect of your own death? Please elaborate.*

**Question 15C:** *Overall, what issues (if any) remain for you in your own educational, emotional, and spiritual journey in reaching a satisfactory, perhaps even celebratory, regard for the material fact of death—death at all levels of reality, from the personal to the cosmic? (You can sample [online resources for further study of an evolutionary view of death.](#))*

16. **Care for Creation and ecological concern.** Polkinghorne succinctly explains a theological impetus for ecological care and concern. He explains,

Religious people should see that **the whole of creation matters to its Creator**, to see the whole Creation has a destiny of an appropriate kind. Therefore human beings are not the only source of interest or concern for God or for each other. **The rest of nature on our planet and the rest of nature on the grand scale of the universe is not just there to be the backdrop of the human drama. It all matters to God.** It all has a destiny. And it all has *value* because of that. I mean, why should we care for Creation? Why shouldn’t we just exploit it? The answer is, it’s not ours to exploit in that sort of way. **We are not the landlords of Creation.** I think that understanding is a strong incentive to be ecologically responsible about the world in which we live—because it is God’s Creation.

**Question 16A:** *To what extent does the theological position stated by Polkinghorne apply to your own sense of ecological and environmental ethics?*

**Question 16B:** *Overall, can you point to something in your life experience and/or something that you learned about the world that likely plays a key role in **your own ethic** toward the natural world and the planetary legacy we pass forward to future generations of humans and other species?*

17. **Who is Jesus?** Fewer than a quarter of the conversations in this series actually touch on the religious question of Who is Jesus? Polkinghorne does, but briefly. He says,

As Christians believe, God is active to disclose his divine nature in the clearest and most acceptable way by that deep and mysterious (and I believe, true) Christian belief that **God was present in human form in Jesus Christ**. To know about Jesus is to know about God. Does God care for individual people? Did Christ Jesus care for individual people? We all believe the answer is yes. That assures us that **God cares for us, too**.

**Question 17:** *Are theological arguments important to you in your understanding of who Jesus was? For example, do you make a distinction between the Jesus of history and the Christ of faith, and how is this distinction helpful (if at all)? Indeed, is Jesus an important figure in your worldview or faith? Why or why not?*

18. **Encountering God via prayer, scripture, and Eucharistic worship.** Polkinghorne says,

In my own spiritual life there are two particular occasions, or moments of encounter with God, that are important to me. One is the regular life of **prayer and reading the scriptures**, which provide powerful spiritual influences. When combined with a quiet **meditating reflection** upon them, they often convey to us the presence of God and the truth about God. And also the experience of worship, particularly **Eucharistic worship**, the regular weekly gathering of the Lord's people around the Lord's Table **in the presence of the risen Lord** is an extremely important and sustaining part of my own Christian experience.

**Question 18:** *In what sorts of circumstances do you feel closest to God (in deepest communion with Reality)? And do you make a regular practice of engaging in such activities?*

19. **Personifying Reality / a personal God.** Within Christianity, the question of whether one believes in a *personal* God is sometimes a central concern. Consistently in this series, host Michael Dowd attempts to turn that issue into the importance of *personifying* the realities greater than ourselves, including Ultimate Reality or God. Here are quotations from each that reveal **where Dowd and Polkinghorne differ**:

**DOWD (personifying reality):** There's something about the personal that nourishes us at the deepest levels of our being. In the last nine years, my wife and I have traveled North America pretty much nonstop, and **we have this deep love relationship with our continent of North America**.

Back about seven or eight years ago, we began to enter into a relationship with the continent in a personified form. So **we now call North America, “Nora.”** We say we’re falling ever more in love with Nora. There’s something playful and goofy about that, of course, but there’s something that’s also profoundly *real*. **I have a different relationship to this continent, now that I’ve given it a name**—a name that’s meaningful, a name that’s playful, yes, but a name that’s also meaningful, that allows me to actually have a different relationship to this continent than I did for most of my adult life.

I remember a few years ago in Dallas, Texas, an evangelical reporter asked me in a slightly frustrated tone of voice, he said, **“Do you believe in a personal God?”** And I said, “Do you believe in **a personal continent?**” He said, “What?” I said, “No, I don’t just *believe* in a personal God; I relate to God *personally* and, as weird as it sounds, I relate to this continent that way too.” I don’t think he had any idea what to do with me. *[laughter]*

**POLKINGHORNE (a personal God):** Whenever we speak of God we are using human language and we’re speaking of God in some stretched sense, some sort of **metaphorical** sense. Finite beings, like ourselves, will never catch the infinite divine reality adequately in our manners of speaking. But **we speak about God in personal terms**, because we believe that God is more like “Father” than like “Force.” God is not just a single influence that is unchanging and unresponsive in any way. God does particular things in particular circumstances. God acts also to make God’s nature known to us through **acts of divine disclosure**. In science, experimenters contrive experiments. **In religious experience, encounters with divine reality come to us as gifts.** God cannot be manipulated in that sort of way. The contrary is to make **the error of magic**, which is a bad mistake.

**Question 19A:** *Which position, Dowd’s or Polkinghorne’s, is more like your own on the matter of a personal God v. personifying God/Reality? Where do you differ?*

**Question 19B:** *Whether you deem Dowd or Polkinghorne to be closer to your own view of God/Ultimacy, consider again the view of the other. Can you see how that view of God could (a) make sense and (b) be emotionally satisfying? Please elaborate.*

## 20. **Where stands Polkinghorne re Ian Barbour’s “Four Types” model?**

**Question 20:** *Of the four primary ways of relating science and religion (as suggested by Ian Barbour in Episode 1 of this series), which best describes John Polkinghorne’s stance and why: **Conflict, Independence, Dialogue, or Integration?***

## 21. **What would you ask Polkinghorne?**

**Question 21:** *If you had an opportunity to ask John Polkinghorne **just one question** to better understand his perspective on science and religion, what would it be? (Please be sure to phrase your question in a way that he would appreciate as coming from genuine curiosity rather than confrontation or disrespect.)*

22. **Universality of science v non-universality of religion.** Polkinghorne is well known for the extent to which he has personally fashioned a worldview that embraces both mainstream science and core Christian doctrines. **But Christianity is not the only religion in the world.** Increasingly, modern representatives of the various faith traditions acknowledge that there is no one true faith. Religious diversity is celebrated. On the other hand, modern science is distinguished by its ability to discover **truths that do not vary according to one's faith.** Indeed, although frontier areas of science are often subject to dispute, once science becomes “settled” in a particular discipline, scientists everywhere in the world and of every faith or nonfaith perspective come to accept that understanding of the universe as the closest approximation to truth then available.

**Question 22A:** *To what extent should the universality of modern science v. the non-universality of religion affect how one goes about weaving science and religion into a coherent and satisfying whole?*

**Question 23B:** *In all 38 episodes of this Evolutionary Christianity series, it is clear that religious doctrines and beliefs must accommodate the growth of our scientific understanding of the cosmos, Earth, life, and humanity. To what extent should the reverse hold? That is, to what extent should science accommodate religious understandings — and which religious understandings?*

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