

Philip Clayton

“The Emergence of Culture, Mind, and Religion”

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Michael Dowd (host): Welcome to Episode 29 of “[The Advent of Evolutionary Christianity: Conversations at the Leading Edge of Faith](#).” I’m [Michael Dowd](#), and I’m your host for this series, which can be accessed via [EvolutionaryChristianity.com](#), which is also where you can add your voice to the conversation.

Today, [Philip Clayton](#) is our featured guest. [Philip](#) is a philosopher and theologian specializing in the intersection between science and religion. He teaches at [Claremont School of Theology](#) and [Claremont Graduate University](#) and has held visiting professorships at the [University of Cambridge](#), the [University of Munich](#), and [Harvard University](#). His books include: [Transforming Christian Theology](#), [The Oxford Handbook of Religion and Science](#), [Adventures in the Spirit](#), and most recently, [In Quest of Freedom: The Emergence of Spirit in the Natural World](#). Here, Philip and I discuss “The Emergence of Culture, Mind, and Religion.”

Host: Hello Philip Clayton, and thank you for joining this conversation on evolutionary Christianity.

Philip: Thanks for having me, Michael.

Host: Well, Philip, I was especially interested in your bringing together three different streams that all play into what [this teleseries](#) is all about, and that is: the stream of [theology](#), also the stream of [science](#), and then also the stream of [philosophy](#). Each of those has rather a lot to say about this topic of Evolutionary Christianity. So I’m wondering if you can just begin there in terms of how you’re grounded in each of those, and then share a little bit of your faith journey with us.

Philip: Sure. Maybe I could combine those two because they’re flowing together and, to be honest, their conflicts along the way have been a big part of what has molded me as a thinker and as a person over the last thirty years or so. I came from an atheist family and had a fairly dramatic conversion to Christianity in my adolescent years. I’m sure an outsider might call it hormones, but it was for me an orientation and a life orientation that stayed with me.

I moved into a very conservative version of Christianity—probably to the right of most of your listeners. It was struggling with the implications of science in general and evolutionary science, in particular, that caused my faith to evolve at the same time. I remember the point in college—I was at a very conservative Christian college—when I began to grapple with evolutionary science and realized that there was a huge discontinuity between what I believed and the way that I approached God, on the one side, and what the sciences were saying. I struggled for years. I went to Germany and worked with a theologian named [Wolfhart Pannenberg](#), who worked on theology and science. I went to [Yale](#) and began doing classes in the [philosophy of science](#). I struggled to bring these two sides together.

It really took years, almost decades, before I realized that my Christianity didn't need to be opposed to the clear results in biology—that the science didn't need to be opposed to a life of faith, even belief in God, and that there were philosophical resources that would help to bridge those two disparate continents. In particular, I began to work in an area called [process philosophy](#), which is a philosophy that builds change right into it. And so I went, I suppose, from a period of feeling complete incompatibility and despair, really—both in my faith side and my science side—to a sense that there was a powerful convergence of science, philosophy, and faith in the direction of an evolutionary worldview and, for me, an evolutionary Christianity.

Host: That's great! It's amazing to me how closely that parallels my own experience. I'm wondering, for our listeners who aren't really familiar with process philosophy and [process theology](#), if you could just explain in a nutshell what process theology is—especially in terms of what you find or have found alluring about it. And why would someone be moved to want to learn more about it and possibly invite it into their own felt relationship with the universe or with the divine or ultimacy?

Philip: Sure. Let's avoid the technical side. Though, for people who are geeky like me and like the complexity of thought and the beauty of intellectual systems, there's a lot of a depth that we can go into. But in more general terms, let's put it like this: At the time when church leaders were formulating [the creeds of Christianity](#)—when they were moving from the biblical documents and their experience of their founder Jesus into saying what it was that the church believed about him—at that time a philosophy was dominant and let's just call it [substance metaphysics](#). It was an understanding of reality where everything consisted of timeless substances. So any entity that you could talk about—a walrus, a rock, or a human being—had some eternal essence, some unchanging core of what it was. All the changing parts—my hair growing longer, my body growing older, what I'm thinking today versus what I was thinking yesterday—all those were called mere accidents. They're just things that happen to this eternal core along the way.

In fact, the whole doctrine of the soul came in at that point, because the soul was something that was supposed to be eternal and unchanging. It came from God and would live forever with God, and in some ways it was barely touched by the to-and-fro of day-to-day thought. When you look at some of the creeds and core documents of Christianity, you can see

how this notion of timelessness was so important. So to make a long story short, fast forward a thousand years, we move into the modern period. We begin to get data of how the universe changed. It was a shock to the substance metaphysicians to find out that some species weren't eternal. It was, for them, literally impossible that a species could come into existence or go out of existence. They were all created eternally by God, and no one could ever pass out of existence. We knew that people died, but we thought that species were eternal.

Host: Even our own president, [Thomas Jefferson](#), was vehemently opposed to the idea that species could go extinct. In fact, one of the things that factored into his launching the Lewis and Clark Expedition was, in part, to prove [George Cuvier](#) wrong. Cuvier had been proposing that extinction was real, because he found these bones and teeth of mastodons and mammoths and, clearly, these kinds of elephants no longer existed anywhere in the world. The story goes that Thomas Jefferson took Meriwether Lewis aside and said, "Hey, I want you guys to find some mammoths and mastodons out there in the West because I want to prove Cuvier wrong." (See *YouTube clip*, [here](#).)

Philip: The poem from [Tennyson](#) from which we get this line about "red in tooth and claw" is actually about the shock to Victorian England in the 1850s, when fossils were found of species that no longer existed. As we realized that we were in a world of pervasive change, philosophers realized that we needed a different view of reality itself to correspond to that. A number of people, in the 1800s mostly, began to think of views of reality that would build process or change into them. That culminated in the ideas of a philosopher in the early twentieth century named [Alfred North Whitehead](#). He thought maybe more deeply than anyone before him of what pervasive process would look like, which he presented in a book called [Process and Reality](#). That spawned a huge movement of process philosophy, and then process theology, that drew on this resource. Think of the universe not as static substances but as ever-changing moments of experience: that's the core idea.

Host: That's great. Well, Philip, one of the things that I feel such a resonance with you about is that we both would consider ourselves [emergentists](#)—that is, we're grounded in [an emergent understanding of complexity: physically, biologically and culturally](#). I'm wondering if you could explain a little bit about what emergent complexity is all about and then perhaps how it differs related to physics or biology or animal learning and human cultures. (See *YouTube clip*, "[The Science of Emergence 101](#)" and *5 short videos*, "[Emergent Evolution, Spirituality, and God](#)".)

Philip: Maybe the best way to approach the question would be to talk about the nature of the human person. For a long time, people understood the person as having a soul, which was the ground for thoughts and consciousness, and then the body. The trouble is that sets in a sort of opposition between the two.

When science became more powerful, a lot of people said, “Well, thoughts or consciousness can’t really have any influence; they’re just by-products of the physics or the biology that makes us up.” In the last four or five decades, a number of scientists and philosophers have tried to say there actually is a third way—that what we see in evolution is always the emergence of new qualities out of what came before. The new qualities or the new entities that evolve begin then on their own to engage in interactions and to form new systems, and they have new qualities.

What if we could understand the whole process of evolution in this emergentist way—giving rise to new entities that didn’t exist before, new properties of those entities, and interacting them in new ways? What if, in fact, cosmic evolution, through cosmic history, involves the forming of a number of new levels? A physicist might say, *new dynamics* that occur. So that as larger particles come together, you move from sort of a quantum physics study to solid-state physics—geophysics on planets. When molecules form, you have chemical properties that begin to emerge. When the first self-reproducing life forms come to be (let’s say, on this planet), they evidence a dynamic unlike anything that you would find in physics or chemistry. As more complex organisms emerge—multicellular organisms, complex systems such as nerve systems—new sets of properties emerge. All the way up to human persons, for whom culture and thought and ideas are absolutely crucial to our existence. So do you see, Michael, that this idea of ever more complex properties that emerge from the biological substratum, let’s say?

Host: Absolutely! I mentioned in one of my interviews —I think it was with [Karl Giberson](#)—I mentioned [Ursula Goodenough](#) and [Terry Deacon](#)’s chapter on “[The Sacred Emergence of Nature](#),” in [The Oxford Handbook of Religion and Science](#) that you edited, and which I found to be a real significant contribution to this whole conversation.

Philip: Terry Deacon is really one of the geniuses who is working in the area of emergence. We published a book with Oxford called the [Re-emergence of Emergence](#), and, in there, he has a brilliant paper. Here’s how he describes that; I’ll be brief: There are, he says, in the emergence of life, three distinct stages. He calls each one a form of dynamics. So the first one is *thermodynamics*, and that’s something that we have in pre-life form; it’s basically the dynamics of heat transfer. That principle, as you know, is ruled by a very firm final law, called the Second Law of Thermodynamics. Every time there’s an interaction, disorder increases. Physicists call it *entropy*—and it means there is no free lunch. Whenever physical systems interact or biological systems interact, the net result is increase in disorder—so that the history of the universe shows this line from ordered states to disordered states. So thermodynamics applies across the physical universe.

Then we have something that Terry calls *morphodynamics*, the dynamics of forms. A great example would be a snowflake. As a snowflake forms in the cloud and begins to fall, it has a unique history or trajectory. Impurities from the atmosphere—say, a dust particle—will come

and form onto the ice crystal, but then the crystallization goes on. That's what explains why no two snowflakes are the same. They each have their own unique history.

Life forms presuppose thermodynamics and they presuppose the dynamics of forms, but they have a third kind of dynamic that Terry calls *teleodynamics*, from *telos* (meaning, order, design, or purpose). And that doesn't mean a God-purpose—though that might come later. It means that when any life form exists in an environment, it has some purposes that pertain to it as a living thing. Stuart Kauffman, a theorist in this field, says that every one of us is out to make a living in our ecosystem. So a little, tiny, single-cell organism floating in, let's say, liquid in a lake, has its purposes to correctly discern food sources and to move its little tail—its flagellum—so that it goes toward its food sources and to avoid toxins or poisons in the environment, and to move away from those.

So do you see that each one of those is a different level of emergence? Terry Deacon calls them *the three levels of emergence*: heat systems, and then systems where the form of the object helps determine its trajectory, and finally living systems that exist for purposes—the purpose of survival and reproduction. You can just continue on up the scale from there as you get to more and more complex organisms, as well. You see, it gives you a little impression of how evolution works in practice.

[Editor's Note: Terry Deacon's acclaimed 2011 book, [Incomplete Nature: How Mind Emerged From Matter](#), goes into all this in much greater depth. [Here](#) is an audio interview that Michael Dowd and Connie Barlow did with Deacon in February 2012, and [here](#) is an excellent overview of Deacon's book, written by Sam Mackintosh.]

Host: Yes, I think that's great. In my experience a lot of people just have never been exposed to thinking about how evolutionary emergence happens. How does it occur? Why do we find that in human culture, for example, we keep finding ways of cooperating at larger scale, entering into larger complex organisms . . .

Philip: . . . We like to say that it is 'systems of systems'. The genes form one system. They produce proteins, and the proteins form a system in the cell called 'proteomics'—that's the study of all protein interactions. They, in turn, run the metabolism of the cells, so we study that system. An organ is a system—say, the liver. Systems of organs work together: the neural system, which is the system of all nerve transmissions—including the brain, if the organism has it. And then culture becomes yet another emergent system. It becomes a set of practices that evolve out of organisms and then influences organisms, as well.

Host: Exactly! That's fabulous! In fact, could you say a little bit more about the emergence of mind, the emergence of culture, and also [the emergence of religion and religious systems](#)?

Philip: For hundreds of years, it was thought that only humans had culture—that was distinctive of human beings. One of the most exciting things in biology, for me, over the last fifty years is the discovery of culture in animals. [Jane Goodall](#) has a crucial role in her work with the chimpanzees on the Gombe Reservation in Tanzania. Scientists now believe that we find culture well down into the bird species, not just in the higher primates.

The famous primatologist [Frans de Waal](#) in Atlanta argues that, “*If you show me a video of any group of great apes anywhere on the planet without environmental cues, I can tell you which group it is based on their cultural interactions.*” That means, learned behaviors of that particular group that they transmit not just genetically or biologically, but they transmit by the parents teaching the children, or the children imitating the parents, and then passing it on generation to generation.

There’s a beautiful interaction between biological explanations and cultural explanations. Let’s take, for example, lactose intolerance. Human beings were not able, at first, to process cow’s milk. But as the keeping of cows and dairy technologies grew, more and more human beings developed the enzymes in their stomachs to break down cow’s milk. And now it’s a huge proportion of the human population that nourishes itself through cow’s milk and dairy products. But that meant that there’s actually been a biological change—a change in enzymes in human beings. What are the causes? Well, is milk valued? Are the technologies of caring for cows and taking care of milk found? Is milk valued by a religious tradition? So you see how there’s what we call a *coevolution* of these various cultural features and the biological features.

The clearest is mate selection, right? I mean, what *more* influences biological evolution than who somebody chooses to mate with? And yet think of all the complex factors that influence mate selection. Religious and moral beliefs—very highly abstract beliefs—are some of the most complicated things about us, and they influence that fundamental feature of biological evolution. See the interaction between them?

Host: Oh, yes. So, I want push into this a little bit more—this whole notion of [emergence](#), especially where you see it offering a corrective to reductionism in our understanding of science and how science works.

Philip: Yes, Michael, I think you can see from in this conversation, I really love the science. *[laughter]* I really think it’s amazing to understand ourselves through the study of evolutionary sciences. But you’ll also notice that our conversation has not sounded like, say, [Richard Dawkins](#) when he writes about [The God Delusion](#), who just wants to destroy religion in every possible form—as do some of these other people called the [New Atheists](#). What most pains me about the New Atheists is that they claim that it is *biology* that spells the end of religion. And I think you can hear from me, as a Christian and a believer in God, that I don’t have any of that sense. It seems to me that they’ve made a tragic mistake. They’ve assumed that to study science in the way I do means to reduce everything that emerges—culture, thought,

consciousness, and all religious belief—down to biological realities alone, or physical realities alone.

But *emergence* actually tells the opposite lesson. Emergence suggests that the things that emerge need to be understood at the level at which they emerge. Once you have culture influencing mate selection or influencing people drinking milk, then culture becomes part of the explanation. You don't need to say, "Oh, well, that's just something invented by our selfish genes in their struggle for survival." You have to say, "Ah! A whole new area of study opens up for the evolutionist who's willing to see the data that actually are in front of us." Now you have an organism complex enough that its thoughts, wishes, and desires heavily influence its behavior.

What does Dawkins say? "Oh, well, all explanations are biological, so we really need to look at what are they doing for their own biological survival when they act in that way. It's really just about sex and aggression." And that would be a sort of a Freudian response. But the emergentist says, "Amazing! Look at this organism that is so complex that it forms internal representations of the world. It forms its own vision of reality as a whole, and then begins to act according to that vision." We need to include psychology, introspection, sociology, cultural anthropology as scientific disciplines that help us to understand the human person. What about an animal whose *religious* beliefs are so important that a person will die for them? It will orient its life around belief in God. Are you going to say, "Oh, well, that just serves biological purposes"? The true emergentist would say, "then *that* becomes part of the explanatory story of this animal; it's not a delusion, but a core part of its reality."

Host: I'm with you entirely on that. [I think I may read some of the New Atheists a little bit differently than you do](#), but I wholeheartedly agree that this emergentist perspective allows us to take in both cultural evolution and all of the sciences that you just outlined. Personally, I've found evolutionists such as [David Sloan Wilson](#) and the evolutionary philosopher [Loyal Rue](#) ([YouTube clip, here](#)), and [Joan Roughgarden](#) (who's in on [this conversation series](#)) to be among the more nuanced and, I think, inspiring scientists and philosophers of science that embrace fully an emergentist paradigm.

Philip: David Sloan Wilson has given huge benefit to understanding religious phenomena, as well as biological phenomena. In a book, [Darwin's Cathedral](#), he analyzes [John Calvin's](#) cultural milieu in Geneva and the beliefs and actions of the [Calvinists](#), from the standpoint of looking for evolutionary dynamics. Why is it that *their* group succeeded so well, when so many cities didn't succeed? He uses the tools of evolutionary theory to help understand religion. So there, I think, you and I would be on the same page with David.

Then he makes a move—and this is one that might be fun to talk about—he basically says, "Since we can explain what they do in evolutionary terms, we don't need to imagine that their beliefs might be true—any of their beliefs—because we know the *functions* that their beliefs have." My question to *you* would be: Is that move required? Or could I say, I accept David

Sloan Wilson's evolutionary explanation *and* I'm interested in the question of whether some of their (let's call them their) metaphysical beliefs might be true or false?

Host: It's a great question. I tend to side with David on that one, in part because of an area that you actually have a lot of expertise in, which is comparative religions. If we're going to talk about which metaphysical understandings might be true, we need to take in the fact that we have hundreds, perhaps even thousands, of competing stories (or that seem like competing stories) about what God or the Goddess or the gods supposedly said or did. And so the question where I come to is: How can I understand those in ways that don't force me to think that God is a schizophrenic or has a multiple personality disorder, but in fact that these are people's self-experience—that is, personified or relationalized aspects of their reality in their part of the world. So I'm curious, from your background in [comparative religion](#), how would you approach that?

Philip: Yes, that's crucial. If I go from some phenomenon (let's say, the way a religious group acts), immediately to their beliefs in isolation, I haven't really dug as deep as I need to, right? So what I need to do is to look at how *their* beliefs function, and what beliefs other groups hold and how those beliefs function. So now we have another area of study, which you rightly called *comparative religion*. So let's imagine that we're able to do some comparative studies, looking at advanced cultures, tribal cultures, strongly theistic views, nontheistic views (like the Buddhists' belief in [dependent co-arising](#)). So we've done this comparative work, and then I come back to the same question, which I pose again. I now see how a variety of *kinds* of beliefs function in a variety of kinds of cultures and societies. And now I say, I still wonder: Could there be some ultimate reality that lies behind those beliefs? Richard Dawkins will say, "No. That question is out of court. There's nothing that we can say on that." But could it not be both that it's true *and* that there may be ways of discussing, for example, whether belief in God is true or false? Or, do you think that the question has been outmoded by the evolutionary perspective?

Host: Well, if you're asking for my *personal* understanding: For me, even language of *belief* in God—I don't find it particularly useful or inspiring. *Belief* in God mattered when we had *pre-natural* (what gets sometimes called *supernatural*), but we had *pre-natural* understandings of reality. In a world that's more and more given by evidence, [I don't have to believe in God. I know that Reality is divine](#)—that reality is creative, and I feel very comfortable using traditional religious language to talk about that.

But I also acknowledge the legitimacy of *not* using religious language to talk about reality as a whole. So I perhaps do that integration or bridge-building a little bit differently than you do, because I'm less interested in those sorts of large-scale metaphysics. I'm a pragmatist in a very real sense. For me the question is, [How do we live in right relationship to reality and support each other in doing the same?](#) (Audio, video, and text resources, [here](#).)

Of course, people are going to conceptualize reality differently around the world, but that question, How do we individually and collectively (now, the ‘collectively’ meaning our human species), how do we do we live and support each other and co-create our institutions—our ways of doing law and medicine, politics, economics, education—that lead all of us to be in right relationship to reality. That’s sort of the fundamental ground for me and why I’m particularly interested in this broad ranging conversation that we’ve been having in [this tele-series](#). All these different thought leaders are all over the map, in terms of their theology and their philosophy and their metaphysics. Yet we all do have a deep commitment to the health and the wellbeing of this larger body of life that we’re a part of, and we all have a valuing of evidence as divine communication—not just ancient religious texts. ([1](#), [2](#), [3](#), [4](#))

Philip: I think the pragmatic questions are hugely important. If we foul our nest, if we make it impossible for human beings to survive on this planet, we’re toast and the cockroaches win. That part is clear. That participants in discussions about evolution are across the map in terms of the metaphysical beliefs: that also is clear. And third, that one can do evolutionary studies at the level of microbiology or at the level of cultures or at the level of religion, and not hold *any* metaphysical beliefs: that’s also clear. The hard question—and I think it’s good that we struggle with it a little bit—is: Can one be an evolutionist and also hold some specific metaphysical beliefs? Are my Hindu friends, who believe in Brahman, mistaken? Is that an *anti*-evolutionary move? Or, is it compatible with evolution to believe that there’s a highest reality which is characterized by consciousness and bliss? I think that they don’t make a mistake. They need to be humble about knowing that they’ve gone beyond what the evolutionary theory can show. But I think that emergent evolution opens up the space for dialogue about such ultimate beliefs.

So maybe in the series, I can be one voice (alongside many other voices) with a slightly different perspective. And I can say to some of your listeners: If you hold a belief in God or a belief in Brahman that this is not ruled out by evolution. It’s still compatible, in my view, with evolution. It’s a different sort of discourse, but it’s not an *anti*-scientific discourse, as such. I just think that that’s exciting for the broader evolutionary discussion. Those of us in the debate hold much in common when it comes to the dynamics of evolution. We have the most trouble when we get up to the divergences.

If one listens carefully to the various participants in this discussion that you’re hosting, Michael, one sees that they go from Integral spirituality to Eastern metaphysics, and then some, like myself, are theists. I’m a *process* theist—that is, not a static God, but a God of emergence. And it’s kind of exciting to see that such a range of metaphysical views can motivate thinkers who share so much in common when it comes to the [evolutionary story](#).

Host: Amen! That’s, again, a huge piece of why I was motivated to coalesce [this amazing collection of thought leaders](#). We *can* disagree on all kinds of things. Yet what we *do* agree on this: the values that we share and the perspectives that we share are so vital for this time in

history. And they often don't get reported on because typically the media pick up on the New Atheists versus the creationists and ignore the tens of millions of us in the middle who are articulating some form of both-and.

Philip: I do find—and this is a deep area of agreement between you and me—that the space in the middle is immensely creative. I've used the short-hand word *emergence* to describe a space that learns from evolving systems, that learns from the evolutionary story (I call it the [Great Story](#), following [Swimme](#) and [Berry](#)), and yet is open to the wide range of things that can emerge and what we can learn about them. I also want to emphasize that there's some discomfort in the evolutionary story, and it's on two sides. It's a discomfort for those who would reduce everything *downward* only to, say, microbiology, only to chemistry, only to physics. It's also a discomfort for those who might be very literalistic or static in their understandings of ultimate reality. This would apply to somebody who might say that God is an unchanging substance, for example, that is timeless—is outside of all time—so that time itself is an illusion. The sense of *process* that's so pervasive to those of us here is going to be left behind [by that group] because what they really want is eternal unchanging existence with God. It seems to me that the evolutionary story should cause Jewish, Christian, and Muslim believers in God to understand that God *cares* about the process of evolution and somehow enters into a world of change. A God who is present to human beings would *have* to be a God who wasn't outside of time but was able at least to immerse God's Self in the temporal process itself. So do you see how the emergence story should push back against some strong physicalist reductionists, on one hand, and push back a little against those who would construe ultimate reality as absolutely timeless—indeed, opposed to time.

Host: I agree. I think it pushes back on both of those. More than pushes back: The metaphor that I like is that it offers a more compelling, inspiring story. For Connie and me, our stance toward our own ministry and work in the world is, "[May the best story win!](#)" *[laughter]*

We believe that if we can articulate a science-based story, an evidentially grounded story, a common creation story—what's sometimes called [Big History](#), the history of everyone and everything—if we can articulate that (and I don't mean just *we*, the two of us, but this whole movement)—if that story can be articulated [in a way that young people, children, teenagers just find so inspiring and that makes sense of their world and makes sense of their own inner struggles](#) ... I mean, you and I both came into evangelical Christianity early on because we were struggling with things in our lives and then had this transformational experience. Well, that same transformation is available to people by having an understanding—[an evolutionary understanding—of our nature](#) (also [here](#), [here](#), and [here](#)). For me at least, it has given me a deeper, richer appreciation of traditional and scriptural wisdom around the fall of Adam and Eve—precisely because I *don't* interpret that my inner struggles are a result of the fact that my great great-great-great-great...grandmother ate an apple.

Philip: You know, Michael, one thing I love about this [New Story](#) is that it's not a possession; it's an ongoing adventure. I remember walking to the table to tell my atheist family the entire story from Adam and Eve to the Second Coming. As a fourteen year old, I *knew* all of cosmic history from its first moment to its final moment with absolute certainty so that there was nothing more I needed to learn. My parents shook their heads in amazement. *[laughter]*

On the other hand, I think that working on evolution means for me to constantly be expanded and challenged and puzzled. It isn't a neat story. It isn't, in that sense, precisely analogous to my very fundamentalist views that I came out of, because I actually need to learn (as new evidence comes in) new things about evolutionary dynamics. It means that sometimes I'm inclined more to explanations that are drawn from microbiology. Let's say, there was a period when genes seem to tell a bigger part of the evolutionary story. Recent works, since about 1995 or 1996, have shown the role of *systems* in biological explanations, and systems of systems. That means my view is expanding a little bit more in the direction of looking *upward* through emergent systems. And *very* recent work is showing the co-evolution of biology and culture—which means, once again, I'm getting a different understanding. Do you see how the evolutionary story is *itself* always evolving?

Host: Yes, exactly. As Tyler Volk, my wife Connie's former partner, used to say, "Evolution is the story of the changing story." *That* is our common creation story now.

Philip: I don't know if people realize that this ability to wed evolution and spirituality is a relatively new phenomenon. For a long time, those who took science seriously thought they had to negate anything spiritual—the values language and the language of ultimate reality. It's really only been in the last years that people have realized that those two stories aren't in tension.

Host: I think that one of the problems is that the word 'spirituality' itself often has been identified as dealing with spirits, taken literally. Yet, commonly it also includes all of the things that lead us in the direction of personal growth and humility and generosity and care and kindness—and all those sorts of things. There's not really a secular word that captures it. I'm wondering if you could say a little bit more, Philip, about how you see spirituality evolving—not just the concept but the *experience* of it. What would an evolving spirituality look like? What is it emerging to look like now, grounded in an evolutionary understanding of emergence?

Philip: That's a great question. I recognize three different ways in which one might use this word 'spirituality' if one is deeply influenced by the evolutionary story. For the first one we might think of a woman you mentioned earlier, the cell biologist [Ursula Goodenough](#), who wrote a beautiful book called, [The Sacred Depths of Nature](#). Her spirituality says that the *experience* of viewing the moon rising above a Mayan temple *or* her experience as a scientist of watching a signal transduction cascade in a microbiological system: those are both, for her,

deeply spiritual experiences. She says on page 46 of her book, “*same rush, same rapture.*” Great phrase!

So there’s a spirituality with what she says, and it’s a *horizontal* spirituality. It is a spirituality that grows *in* to this evolving world but doesn’t have any vertical dimension—no God, no transcendent *outside* of the world. It’s kind of a horizontal transcendence. That would be one approach.

Then there’s a spirituality that believes there are deep values of good built into the process. I think Swimme and Berry do this in their evolution story—that’s [Brian Swimme](#) and [Thomas Berry](#). But there are other people, like [John Leslie](#), who say that the universe as a whole is a matter of an *evolving good*. Or those who would say that values evolve, and that the process gets better. In a sense, those evolutionary thinkers go a little bit further than the first kind of spirituality would go. They’re a little bit more robust in talking about the reality of values, and maybe [a directionality to evolution](#) (*also here*)—things that Ursula Goodenough and other biologists might resist. So that would be a slightly more robust version.

And then *my* view is that the evolutionary story is also compatible with those who might believe in the actual existence of a God—an ultimate reality that lies behind the whole evolutionary process or toward which it is evolving. Those people would have a spirituality that would actually be compatible with one of the organized religions: Judaism, Christianity, Islam, Hinduism, or Buddhism. This would be a spirituality that embraces the evolving world as we find it, and has faith in some sort of ultimate reality beyond it. Now, people will find themselves in one of those three sharply different approaches to spirituality. The first one’s very minimal; the third one is actually more theological. They don’t agree with each other, but I think it would be nice if we could all sort of co-inhabit—sharing the evolutionary story in common.

Host: I’m glad you phrased it that way, Philip, because for myself, I have sort of a bottom line that I’m willing to argue about or debate or even discuss with any deep seriousness. If somebody has what I call *deep-time eyes* (that is, an evolutionary understanding, a deep-time understanding of reality, both past and future), and if they have a *global heart* (that is, a commitment to the health and wellbeing of the entire planet and its species), and a *valuing of evidence* as in some very real sense, divine communication: If people have those three understandings and values, then frankly it doesn’t matter to me what their metaphysics may be, what their theology may be. All the different kinds of ways that people structure and think about ultimate reality is of less interest to me than [deep-time eyes](#), [a global heart](#), and a [valuing of evidence as divine communication](#) (*also, 1, 2, 3, 4*). Because frankly, I think our differences on some of the other stuff are actually a good thing. I think it’s healthy, like an ecosystem. You don’t want all the same species. It’s the diversity of species in an ecosystem that makes for its health, and I think the same is true in consciousness.

Philip: That’s beautifully put. I love the idea. Biologists know how genetic diversity in an ecosystem is crucial. Because when the ecosystem changes—when there’s increased

temperature, more moisture, new predators—the organisms will survive only if there's that kind of in-built diversity to draw from. I actually think about that with regard to the global environmental crisis. We had a series of meetings on science and spirituality at the [World Parliament of Religions, held in Melbourne](#) in December of 2009, a year ago now. And we had the privilege of organizing three large sessions for people who wanted to know how the religions might work with the sciences to help address the global environmental crisis.

It was fascinating to see, just like you described, the diverse resources that the different religious leaders from around the planet brought to the same question. The Buddhist speaker could move me and the audience to tears, as he described that call—because we all have a co-dependent arising and we're all interdependent. We have what [Thich Nhat Hanh](#) calls, *inter-being*, and therefore the fate of the ecosystems is indeed our own fate. And then a native indigenous religious leader could speak, and she had the sense of the *sacredness* of each environment and each animal. And then a Jewish speaker could speak of the *holiness* of the planet. And Muslim speakers spoke similarly. I recognized that there is something equally profound to what *their* traditions bring—you couldn't walk away from that discussion without feeling, Wow! The various religious traditions of the world working together in this way offer incredible resources to motivate us to change.

Host: Amen! ... Philip, for the more theologically oriented folks that are listening in on this conversation, I'm wondering if you could say just a little bit about some terms that you've used in your writings, such as *Christian panentheism* and *Christian naturalism*.

Philip: It struck me as tragic that those who believe in God feel themselves pushed away from the evolutionary discussion. They feel that only those who *don't* believe in any God are really welcome. I just think that's false. It's a mistake and it's tragic because people who really could share in the evolutionary story and see reality as it is, evolving, have to negate that story altogether. So I have worked really hard as somebody who's both a Christian theist and a person who works on the sciences of evolution to see how I might understand my Christian faith in light of the results of evolution and the evidence.

Two notions that have come out of that work are the ones that you have just mentioned. *Panentheism* is a clunky word; I wish I could find another one, but it's what the tradition has been using for almost two hundred years—so I'm sort of stuck with it. It has a simple definition. It means, the belief that the world is contained *within* the divine, although God is also *more* than the world. It's a view that one can find in the Hebrew Bible and in the Christian New Testament, as well as in the Jewish mystical traditions—Kabbalah and much of Jewish Hasidic tradition. One can find it in Islam, both in the *Qu'ran* and in Sufi traditions. And it's pervasive in Hindu traditions. It's a belief that God should not be understood as fully separate from the world—as if God existed *out* there, like the man on the cloud with the white beard—but that God's spirit pervades all things that exist. If all of evolution occurs *within* the divine, then we

can understand, for those of us who believe in God, God's presence to every living form, to all parts of evolution, in an immediate way.

Host: It also comports perfectly with this notion of nested emergence. That what we find from an evidential standpoint is that reality is comprised of nested spheres of creativity: subatomic particles within atoms, within molecules, within cells, within organisms, within planets, within galaxies, and so on. Just like Russian nesting dolls, each level, each scale, is able to create—it is able to bring something new into existence that didn't exist before. And yet God or Ultimate Reality could be seen to be that one and only creative reality that includes all other creativities —includes *all* forms of creativity—and yet also transcends all other forms of creativity.

Philip: That's a beautiful description. In fact that's exactly how many of those of us who work in panentheism think about it. I co-edited a book with the Oxford biochemist [Arthur Peacocke](#), and we titled it [In Whom We Live and Move and Have Our Being](#), which is a quote from Acts 17, St. Paul speaking in Athens and the Mount of Areopagus. It's an understanding that accords well with the systems approach in biology. But it's also one that one can find pervasive in the sacred texts of Jewish, Christian, and Muslim traditions.

Host: In my book, [Thank God for Evolution](#), Connie and I used a different term, in part, because *panentheism* had been sort of identified with process thought to such a degree that, among those who are on the more conservative end of the spectrum, it was tainted. So we sort of humorously came up with what we called, *creatheism* which can be pronounced either crea-THEISM or cre-ATHEISM—depending upon whether you find personifications of Ultimate Reality useful or not. I don't know if it's actually going to catch on, but it's certainly coming from this nested emergent understanding—and that there's some deep value in recognizing that the process itself is sacred.

Philip: That's nice. I love the double entendre that you build into the word. It's a helpful corrective for those who believe in God and who begin to listen to the evolution story to realize that there are *in their own traditions* these ways of thinking. It wasn't actually until the modern period, the 1600s, that the word 'theism' was formed. In the time of the Hebrew and the Christian scriptures, there was no such thing as 'theism'. This idea that there was a God *outside* the world, that the world was like a machine that just ticked on its own with no help, and that God stood outside scratching his forehead and wondering how he could get anything done in the world: that is a modern invention. It grew out of the period when Newton's physics was being formulated. It's a very different understanding of the relationship of the created order to the divine in the period when, not only Jews, Christians, and Muslims, but also Hindus were formulating their scriptures. And that's the understanding of the divine spirit as flowing through all things. Now, if that divine spirit is constantly required to explain cell division or microevolution, then you've got a real tension with natural science.

Host: Philip, could you say just a little bit about this other concept of *Christian naturalism*, because I've used that term myself. I refer myself as [an evangelical naturalist](#) or [a Christian naturalist](#). I even have a blogpost that I wrote about a year and a half ago on "[How and Why I'm an Evangelical Pentecostal Naturalist](#)." But I'm wondering if you could explain a little bit about how *you* use that term.

Philip: In the modern period, as people tried to understand how God was related to the world, they first coined the term, *supernatural*. And it, again, suggested that there was this natural sphere—and then, if you're religious, you had to somehow negate that and put all your attention up onto the supernatural level. But that doesn't seem right. Again, that doesn't accord with the Christian or Jewish scriptures, which understand a God who's somehow pervasively present. So people began to let the supernatural side go. It was a move a few hundred years ago to try to solve some problems that actually created more problems than it solved. Instead, we began to focus on the *natural* sphere.

So we're naturalists, in that we want to learn about the world as it reveals itself to us—if I may, with a kind of natural piety. We want to see, how is it that systems evolve?—whether they're genetic systems, or systems of cells, or systems of organs, or ecosystems, or cultural systems, or religious systems. How do they actually evolve and grow? What are the dynamics? For those of us who want to speak of the divine, we want to ask how that is a part of these systems? Those of us who, like me, want to still use the word *God* want to ask, How can we understand God in light of these systems?

Not everybody still wants to use that term within the evolutionary community—that's completely fine. But some of us actually *do*, and I think it's fully compatible with the evolutionary story as long as one still keeps the focus on how these systems evolve and grow, and then integrates the God language—integrates the religious story—into that natural story, as well. The *naturalism* focuses, I think, on the dimension of the here and now: that which lies around us, that which we can understand and comprehend.

Host: I'm so glad that you raise this because I myself have been thinking in terms of [supernaturalism as pre-natural and unnatural](#), if interpreted literally. I remember reading a few years ago Benson Saler's watershed 1977 American Anthropological Association *Ethos* paper, titled "[Supernatural As a Western Category](#)." One of the points that he makes there is that this idea of the supernatural, as we today think about it, only came into being once we began having a sense of the *natural* in a measurable, modern sense.

Prior to that, reality was spoken about using a blend of, what I call, [day language and night language](#)—that is, elements that occur to us during the daytime and some things that only happen to us at nighttime (in terms of some of the fantastic and seemingly supernatural things that we do in our dreams but that aren't *super*-natural because they're simply what we understand happens in the dream-state). As you said before, this notion of 'theism' and

‘atheism’ and also ‘deism’ really came into being long before we had any understanding of evolutionary emergence. So I’ve come to think of ‘theism’ and ‘atheism’ as in some ways—at least as traditionally spoken about—as in some ways outdated, misleading, and unnecessarily divisive concepts.

Philip: That’s really helpful. A philosopher named [David Griffin](#) has a beautiful short book called, [Two Great Truths: A Synthesis of Scientific Naturalism and Christian Faith](#). He shows how—to put it roughly—there was a narrow view of naturalism, of nature, that arose in the early part of the modern period, when a kind of narrow physics—Newton’s physics—dominated all knowledge. And it was that narrow, (I would say) truncated view of the natural world—it was a pre-evolutionary view—that gave rise to supernaturalism. The sad thing is that although the worldview of science changed into an evolutionary worldview, the religions that took on supernaturalism as their call, as their focus, didn’t change. So *now* the naturalism that we learn, as we study evolving systems, is open-ended, it’s emerging, it allows for explanations at different levels, it allows for the role of human thoughts, cultures, ideas, poetry, art, spirituality, religion as a part of what has emerged on this planet—and its not exclusive to religion. It strikes me just as tragic—nothing less than tragic—that a lot of the religions have gone on proclaiming themselves supernaturalist and fighting against a long-dead view of reality, that of early modern naturalism.

Host: Yes. I hope that we are in the early stages of a much larger reformation than even the Protestant Reformation. In this reformation I see us grounding our understanding of reality, of God, and our understanding of how to live in right relationship to reality, and to support others in doing the same: that we will get that not just from scripture, not just from tradition—but we will get that through evidence, all forms of evidence. I see it as [an evidential reformation](#) ([YouTube clips here and here](#)). Maybe its wishful thinking, but my hunch is that when I look at, for example, the 21st century, and I imagine, “What are the religious trends that seem to be likely as the century continues to unfold?” I see three major trends. (I’d be curious to hear whether you agree or disagree or have other thoughts.)

I think we’re going to continue to see the rise of those who say they have no religious affiliation, or they consider themselves secular or perhaps ‘spiritual but not religious’ or that they’re non-believing, post-theists or atheists or humanists, but they don’t identify with any particular religious tradition and they don’t find supernaturalism particularly inspiring. I think that group of people is going to continue to grow.

Another major trend is that we’re going to see the continuing decline and perhaps marginalizing of all forms of religion that tend to focus (like, what’s really important to them) is mostly the unnatural realm and that look to ancient scripture or tradition for God’s best guidance. In other words, they failed to see *evidence* as, in some very real sense, divine communication or divine guidance. I think those traditions will continue to shrink over the course of this century.

And I *do* expect that there will be continued growth and expansion of all forms of religion—not just Christianity but all forms of religion and spirituality—that value what is natural: what is this-world *real*. They may also have supernatural metaphysics—that’s fine. But they don’t privilege the unnatural over the natural; and they really do see scientific and historical evidence and cross-cultural experience as divine communication and divine guidance.

So I see those three trends unfolding over the course of the century. Does that resonate with your understanding, or do you see things differently?

Philip: I’m really glad that, as we’re closing out, that we came to that topic because it’s also the place where I would want to end, as well. I have the privilege of travelling internationally and engaging in extended discussions with people in all continents. It’s amazing to see, across these vastly different cultures, to see arising in interestingly different ways this sense that we can both embrace the results of where science is advancing globally (and for me, that’s biological science primarily), and we can embrace those deeper values that we tend to call the spiritual—and some people call, the religious—values of our various cultures. There were so many centuries since the birth of science when people thought it was an either-or decision. You had to choose one or the other.

And . . . how can I describe [my view now]? It’s an impression that one has from different audiences and professors, who’ll speak sometimes publicly and sometimes just privately in saying: “I know I’m supposed to be secular, but the people that I talk with as we work in biology or physics or whatever, we find that it’s possible to continue our traditional religious belief, or to affirm the deep values that we know as human beings, at the same time that we are engaged in cutting-edge science.”

I can only hope that those groups that would squelch that synthesis—that deny that integration—that they become increasingly marginalized. Those who in the name of *science* would destroy all value, all spirituality, all religion—on the one hand—and those who in the name of *religion* would destroy all the good parts that the religious traditions have mediated to us.

Host: Well, I certainly agree with you on that!

Philip, could you say a little bit just about your recent writings and where listeners can go for more information about your work?

Philip: I blog at philipclayton.net and I also have blogs for The Washington Post and Huffington Post, more recently. I have published a number of books. The nontechnical ones are: [In Quest of Freedom: The Emergence of Spirit in the Natural World](#)—that’s a recent book—and about the same time, [Adventures in the Spirit](#), and that’s published by Fortress.

I also should mention that I’m involved in an institution that’s actually trying to bring this about. [Claremont School of Theology](#) (in Claremont, near Los Angeles) is giving birth to [a new interreligious university](#), where we will train religious leaders from Jewish, Christian, and Muslim

traditions, and soon, Hindu and Buddhist traditions—side by side. We’re not asking them to leave their own religious traditions behind—they’ll still have classes in their own traditions—but to join together to see if we can’t do something that the Jewish tradition calls [tikkun olam](#): to repair the world. In this way, religions can be allies with science and technology toward having a positive impact on the planet. I’m involved in it as [Dean of the Claremont School of Theology](#) and, in a major way, in launching this new university. So I wanted to make sure that I included that as one way where we’re trying to bring about, in practice, what you and I have been discussing in theory today.

Host: Beautiful! Beautiful! ... Well, Philip Clayton, thank you so much for your bridge-building work in the world that is bringing together theology, philosophy, science, evolution. And thank you especially for sharing your perspectives and ideas here with our listeners today on the leading edge of faith.

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