

§ 9. Excursus on Creation of Life and Biological Diversity

Lecture 28

Is Genesis 1 in Conflict With the Theory of Evolution?

Last time I argued that apart from Young Earth Creationism and a literal interpretation of Genesis 1 there's just no incompatibility between Genesis 1 and the modern scientific theory of biological evolution. The Scriptures don't say anything about the mechanisms that God might have used to create life or bring about biological complexity, and so it's hard to see how, apart from the Young Earth interpretation, there could be any incompatibility between what the Bible says and modern evolutionary theory.

Some Christians would disagree with this because according to the standard theory of evolution the mutations which serve to drive the evolutionary process forward are random and therefore cannot be designed or occur for a purpose. But this inference involves a fundamental and very important misunderstanding about what evolutionary biologists mean when they use the word "random." When biologists say that the mutations responsible for evolutionary change occur randomly they do not mean by chance or purposelessly. If they did then evolutionary theory would be enormously presumptuous since science is just not in a position to say with any justification that there is no divinely intended direction or goal of the evolutionary process. How could anyone say on the basis of scientific evidence that the whole scheme was not set up by a provident God to arrive at *Homo sapiens* on planet Earth? How could a scientist know that God did not supernaturally intervene to cause the crucial mutations that led to important evolutionary transitions, for example the reptile-to-bird transition? Indeed, given divine middle knowledge, not even such supernatural interventions are necessary in order for God to guide the evolutionary process for God could have known that if certain initial conditions were in place then given the laws of nature certain life forms would evolve through random mutation and natural selection, and so he put such initial conditions and laws in place knowing that life would evolve from them.

Obviously, science is in no position whatsoever to say justifiably that the evolutionary process was not under the providential direction of a God endowed with middle knowledge who determined to create biological complexity by means of random mutation and natural selection. So if the evolutionary biologists were using the word "random" to mean "undesigned" or "purposeless" or "unguided" then evolutionary theory would be philosophy not science. But the evolutionary biologist is not using the word "random" in that sense. This fact, which is ignored by both critics of theistic evolution as well as apologists for naturalistic evolution, became very clear to me in the course of my preparation for my debate with the eminent evolutionary biologist Francisco Ayala on the

viability of intelligent design in biology.¹ According to Ayala, when evolutionary biologists say that the mutations that lead to evolutionary development are random they do not mean occurring by chance; rather they mean irrespective of their usefulness to the organism. They mean that these mutations occur irrespective of their usefulness to the host organism. This is hugely significant. The scientist is not, despite the impression given by partisans on both sides of the divide, making the presumptuous philosophical claim that biological mutations occur by chance and hence the evolutionary process is undirected or purposeless. Rather, he means that the mutations do not occur for the benefit of the host organism. If we take "random" to mean irrespective of their usefulness to the organism then randomness is not incompatible with direction or purpose. Alvin Plantinga has made this same point in his book *Where the Conflict Really Lies*. According to Plantinga there is not even a superficial conflict between evolutionary biology and theism. Plantinga chastises scientists who have recklessly asserted that according to evolutionary biology the evolutionary process is undirected or purposeless or unguided. Such claims are not, he says, properly part of the biological theory itself; rather, they are what he calls a philosophical add-on, that is to say an extra-scientific assertion. In support of this point, Plantinga quotes the prominent evolutionary biologist Ernst Mayr who says the following, "When it is said that mutation or variation is random, the statement simply means that there is no correlation between the production of new genotypes and the adaptational needs of an organism in a given environment."² There isn't any correlation between the mutations and the needs of the host organism to adapt to its environment. That's the same definition as given by Ayala – that they occur irrespective of their benefit to the host organism. Such a definition of "random" is wholly compatible with God's willing or even causing mutations to occur with a certain end in view.

Let me give an example. Suppose that God in his providence causes a mutation to occur in an organism – not for the benefit of that organism but for some other reason – for example, maybe it will produce easy prey for other organisms that God wants to flourish, or maybe because he knows that it will eventually become a fossil that Jones will someday discover which stimulates Jones' interest in paleontology so that he embarks upon the career which God had in mind for him. In such a case the mutation is both purposeful and random.

So unless we adopt a literal interpretation of Genesis 1 (which I've argued is not obligatory for us) there is no conflict between the Bible and standard evolutionary biology. What that means is that the Christian therefore is free to follow the evidence where it leads. And in this respect the Christian actually enjoys an advantage over the

¹ See <https://www.reasonablefaith.org/media/debates/is-intelligent-design-viable-craig-ayala-debate> (accessed September 8, 2019).

² Alvin Plantinga, *Where the Conflict Really Lies* (Oxford University Press, 2011), p. 11.

atheist. As Plantinga has put it, for the atheist, evolution is the only game in town. Thus the naturalistic biologist Richard Lewontin has admitted,

We take the side of science in spite of the patent absurdity of some of its constructs, in spite of the tolerance of the scientific community for unsubstantiated just-so stories, because we have a prior commitment, a commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our *a priori* adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counterintuitive, no matter how mystifying to the uninitiated.³

So, as Plantinga says, for the materialist (for the naturalist) evolution is the only game in town, no matter what the evidence, no matter how absurd the results. But the Christian is not so restricted and so he can actually be more open-minded and more objective than the atheist in following the evidence where it leads.

START DISCUSSION

Student: I understand what you're saying about it's essentially God's hand guiding evolutionary theory. How does that explain the Cambrian explosion which was a whole bunch of new species that occurred once when there was a gap between the previous species and the new species?

Dr. Craig: The Cambrian explosion is actually the origin of phyla, which is a higher classificatory order of creatures than species. You've got species and genera and orders and families. Phyla would be the broadest. As our questioner indicates, one of the amazing things about this so-called Cambrian explosion is that there are actually more phyla that existed at that time than exist today. It is not as though additional phyla have evolved; quite the contrary, there's been a winnowing of phyla from the ones that existed in the Cambrian explosion. There are fewer today, not more. So the question is: What is the origin of these phyla in the Cambrian explosion? We don't find the sort of fossilized predecessors for these creatures. What I'm suggesting is that it is fully compatible with the Bible to offer any kind of explanation for that scientifically. If you want to say that this occurred through fantastic mutations that were in pre-Cambrian organisms, that's theologically unobjectionable. It might be scientifically objectionable. We're not pronouncing on that. But theologically it would be unobjectionable. Or you might say that God and his middle knowledge put the conditions in place with the laws of nature

³ Richard Lewontin, "Billions and billions of demons," The New York Review of Books, January 9, 1997 (a review of Carl Sagan's *The Demon-Haunted World: Science as a Candle in the Dark*). Available online to subscribers only at <http://www.nybooks.com/articles/archives/1997/jan/09/billions-and-billions-of-demons>

knowing that this is what would happen and therefore it was all superintended and planned by God. Or you could say that God actually intervened at that point, which is, I think, maybe what you might have been hinting at. That this represents a miraculous, supernatural input into the evolutionary process that produced all of these new phyla. That's an option as well. As I say, I think the Christian theologically can be open to all of these. But obviously the naturalist cannot because he has nothing but material causes to work with.

Student: I think I understand what you're saying. I'm not sure I agree that most Darwinists don't mean "random" to mean truly random. I just looked up an article online where an anti-evolutionist Jay Richards, who's written several books, directly responds to Alvin Plantinga's *Where the Conflict Really Lies*. In his review he says "for Darwin and most Darwinists, in fact *random* doesn't just mean uncorrelated to a physical mechanism that works in favor of organisms. Random mutations have some or another cause, to be sure, but the cause, in the Darwinian view, is blind, unguided, and purposeless."⁴

Dr. Craig: I disagree with Jay on that. I know him. The point that Plantinga is making is whatever careless or reckless statements may be made by evolutionary biologists, they are making extra-scientific assertions that are not properly part of the theory. I think here Ayala and Mayr have been better guides to what is part of the scientific theory. I think that the plausibility of Ayala and Mayr's claim is underlined by the fact that if these scientists were making these kinds of claims then, as I say, it's just utterly presumptuous. It would be doing metaphysics or philosophy, not doing science. So it seems pretty implausible that Jay Richards is right that this is part of the theory rather than that these are reckless and unjustified statements being made by evolutionary biologists.

Student: You had the point of God produces something like a mutation that might not help the host but helps out others such as becoming more of an easier prey. I thought that'd be an interesting aspect on the philosophical side of the problem of evil and suffering. Now you are having, okay, this is an answer to that. It may make them more of a prey but now it ends up benefiting the larger community.

Dr. Craig: This question of God's involvement in the evolutionary process is an enormous question in theodicy, or the problem of evil and suffering, because you have these millions and millions of years of nature red in tooth and claw (as the saying goes) where evolutionary development presupposes this kind of survival of the fittest and competition for survival that is ruthless and merciless in the natural realm. That's a question I'm not addressing at this point. We've talked about the problem of evil elsewhere. But you're right that this is where that would connect. It would suggest that God might produce easy prey for organisms that he wants to flourish, and that's just fine.

⁴ https://evolutionnews.org/2012/04/whats_in_a_word_1/

There's nothing morally evil about that. Certainly it would involve suffering, but you can't just equate suffering with moral evil. There's nothing evil about God's doing such a thing.

Student: I have a couple of issues here. One with randomness period. Because changes in biological systems are non-random. We call on different existent genetic packages to produce different effects depending on the circumstances. So I have a problem with randomness. And in support of that, the second point would be cost to substitution. J. B. S. Haldane's idea that any change in an organism – suggested change – would produce a disadvantage until that change was effected. It would be at a disadvantage. He said you have to consider cost of substitution for any change. I think this is a problem for randomness period.

Dr. Craig: Let's speak to the second point first. Although these mutations in general will tend to be deleterious, there can be cases where there's a change of the environment in which what would have been a deleterious mutation suddenly can become beneficial, and so it can get spread throughout an isolated population more quickly. So although there would be quite rightly a cost to be considered to any mutation, it's not the case that they would all be deleterious. There could be cases in which the mutation might be beneficial. As to your first point, I think you are quite right to say that apart from quantum theory we're not talking about real randomness here because they're obviously causal factors that contribute to mutations. So what people mean when they say by something being by chance they mean that it's the result of two independent causal chains that happen to meet at a certain juncture to produce an effect. The causal chains leading up to this effect are independent of each other and therefore in that sense the event is said to occur by chance; namely it occurs as a result of two independent or more causal chains. But obviously there are causes leading to that event. So I think you're quite right that even among evolutionary biologists who make these statements that this is occurring randomly they don't mean random in the sense that sometimes people say quantum events are random or indeterminate. They would mean it's occurring by chance in that sense. But where they would, I think, step over the line is when they begin to assert that therefore the evolutionary process is unguided or purposeless or undirected or that these mutations do not occur for a reason. That's where they go beyond the limits of science and begin to make philosophical assertions.

Student: It seems we're accepting evolution as fact, and that may be the path that we're looking at right now. But what makes us think that evolution – small-e is very apparent around us. But large-E we never have seen. I say that I've never seen the large-E evolution – something turning from a mole into a bat. But we see adaptation an awful lot. I believe that evolution was designed to explain life around us without God. We saw all

of these fossils and we can't trace fossil evolution anywhere. It always breaks up. So why are we accepting evolution as fact?

Dr. Craig: I don't think we are accepting evolution as fact at this point. What I've been arguing for is the compatibility of Genesis 1 with evolutionary biology. What I've said is, as I said in response to this question, the Christian is free to follow the evidence where it leads, and if it leads to the need for miraculous interventions and supernatural input then he can. He's open to that. He can conclude that. But I'm merely arguing here for compatibility, not for or assuming the truth of evolutionary biology.

Student: Could what we have been discussing come under the umbrella of theistic evolution?

Dr. Craig: Yes, I think it could. Theistic evolution is often defined in different ways, but certainly one version of it would be that God is responsible for setting up the process of biological evolution which has led to *Homo sapiens* on this planet – that God is ultimately responsible. Now, within that general framework, as I say there are all sorts of different ways you could do that. One might contemplate supernatural interventions along the way – miraculous acts along the way. Or one might think of major miraculous interventions on God's part. Or one might adopt a middle knowledge perspective where God simply knew what would happen if the initial conditions and the laws of nature were in place so that you don't even need to have miraculous interventions in order for the process to be directed or supervised. If you don't recall middle knowledge, go back to our class lectures on the attributes of God when we talked about divine omniscience. We had several sessions on middle knowledge which is God's knowledge of what would happen indeterminately in any set of circumstances. So, right, what I'm suggesting is that theistic evolution is something that is compatible with the Bible if you're not a Young Earth Creationist.

Student: I just wanted to clarify something on the adaptation if it's not beneficial to the organism. You were saying if it's random it could necessarily have a cause – it would be God's hand within that to cause that adaptation to lead to something further perhaps. If the adaptation is not beneficial, what does evolution say why that adaptation would continue to be within that organism. I always understood it to mean it would have to be beneficial for it to be replicated.

Dr. Craig: This is what the point someone else was making. If this mutation or adaptation or change is detrimental to the organism then it will be unlikely to produce more offspring. It's more likely it'll be killed off or will not survive, and that's this whole aphorism of the survival of the fittest. Those organisms which have the greatest ability to reproduce their offspring will be the ones that will spread their genetic material most widely in a population. So if the mutation or adaptation is deleterious it will tend to be

weeded out by natural selection. That was the source of my illustration – maybe God wanted to make easy prey for some predator, and so he causes lame or otherwise deficient three-legged quadrupeds or something like that because he wants the predators to flourish.

Student: Really what we're saying is that in the evolutionist's mind, random would mean by chance and we're saying as a Christian or theological point of view it could have been divinely led either by middle knowledge and creating an environment where it would tend to happen or God set in place that mutation. It was sort of his providence to do so.

Dr. Craig: I think that what you've characterized as the Christian position is correct. But I want to go back to the first part of your statement. I'm not saying that this is what the evolutionary biologist is saying. This is what the naturalist like Lewontin was saying. It's philosophical naturalism that says that it occurs without purpose, direction, or guidance. But for the scientist who is careful to stay within the strict parameters of science he will not assert that this process is unguided, purposeless, or undirected. He will say merely that the mutations occur irrespective of their benefit to the host organism in which they happen.

Student: I think when people hear evolution in its purest form there's an assumption that he is also making a theological statement that there is no divine involvement. And you're saying that he's really not commenting on that one way or the other; he's just observing scientific evidence.

Dr. Craig: Yes, and that is precisely why I'm leading off with this point in our discussion right at the beginning. This is an absolutely watershed issue; it's pivotal that if the evolutionary biologist speaking qua scientist does not mean that these mutations occur without a view toward guidance or directedness or purpose or something then there's just no conflict here theologically.

Student: I've heard my whole life from Christian sources that Genesis depicts special creative acts by God and that evolution as contemplated by Darwin – *Origin of Species* 1859 – cannot account for biological complexity. I have never heard of any example since 1859 where macro-evolution has occurred in the sense of a new species has evolved or a new organ has developed like hearing, eyesight, or something like that that previously didn't exist. It seems to me it's a huge concession to those who are critical and reject Christianity to say that Darwinianism, random mutations, and natural selection can produce biological complexity. Richard Dawkins certainly means exactly what you're saying these scientists should not say. Because he says in *The Blind Watchmaker*, which is his answer to William Paley who said creation is like a complex watch that has to have a designer, he says no it does not. He thinks there is no place for a designer or creator in the process that produces biological complexity. It just seems to me it's a tremendous

concession to say or suggest that random mutations, natural selection can produce the complexity we see around us. It seems inconsistent with Psalm 139 where David says *I'm fearfully and wonderfully made*. If all God did is sprinkle an occasional unrecognizable beneficial mutation into this process of mostly harmful mutations and somehow those became the basis for new species or new organs it seems to diminish the creative work of God.

Dr. Craig: Let me reiterate what I said earlier. I haven't said anything to suggest that the standard account of the origin of biological complexity, much less of life, is scientifically adequate. I haven't said anything to that effect. What I've just been arguing is that the Christian is free to follow the evidence where it leads because there's no incompatibility between Genesis 1 and God's using the mechanisms of random mutation and natural selection to produce biological complexity on this planet. Now, if you adopt a Young Earth perspective where you interpret Genesis 1 literally as six consecutive 24-hour days in a creation week a few thousand years ago then absolutely you've got a conflict. I agree with that. But my claim is that leaving the literalistic Young Earth view aside and looking at those other interpretations that we've surveyed, they are quite compatible with evolutionary biological theory. As for God's providence, the idea here would be that God is so provident over the world that he can guide the evolutionary process from the first primordial cells right up all the way through to *Homo sapiens* as the crown of creation. This would exhibit rather than deny God's providence. It would say this is not a blindly unfolding process despite what Richard Dawkins says, but that this is a process supernaturally intended and guided by God. I don't think it's a concession to say that the Bible is compatible with evolutionary theory. On the contrary, I think it would be very dangerous if we were to say that the Bible is incompatible with evolutionary theory because that sets up this opposition that could be very, I think, detrimental to the church. I think it's better to leave the question open and say follow the evidence where it leads.

Student: I think your argument and Plantinga's argument is very strong. You can't do a metaphysical statement from scientific, and so you're absolutely right. I think both books are true – God's inspired Scripture and the book of the world (his creation). There's no lie. We are leaving out what the historical mythology truth is in there – that there's an angelic realm. If, as a programmer, I direct another programmer to write a program to do something, I get credit for it. So when you say God created, he created this creation through his angelic creation as well. Remember we're to redeem by bowing our knee to Christ we're supposed to offer an example for salvation to the fallen angels – to the angels. That's why they were involved in this. If you look at some of the Hebraic expressions of gathering powers to make the sun and stuff, he commands the earth to bring forth. There is no random macro but there is angelic beings affecting that. I'm

saying there's a spiritual realm out there that helped create and is involved directly and is part of us.

Dr. Craig: Whether the miraculous interventions were directly from God or via the mediation of angels I think is neither here nor there. One can be open to either alternative. As I said, I think the Christian could say that the key mutations in the development of life that led to *Homo sapiens* were caused by God or caused by angels, and science could say nothing against that. There's no way a scientist could know whether or not these key mutations in the history of life were divinely caused or not.

Student: I just wanted to ask a question of clarification. When evolutionary biologists such as the ones you've listed say that evolution is not random . . .

Dr. Craig: No, wait. They say it is random. People like Ayala and Mayr – it is random, but they don't mean by “random” purposeless or unguided or undirected.

Student. Right. But when they say that, are they beginning with by looking at the science and saying well this seems to be going towards some end therefore there must be some purpose to this or are they just looking at the functions on the microbiological level and saying *these things are made to operate this way*.

Dr. Craig: I don't think either one because they're not going to be making any statements about the purpose for which a thing exists. There is a kind of view called organism with respect to evolutionary development that sometimes theorists have fallen into in thinking that the process is directed toward a goal – that humanity, for example, is the goal of the evolutionary process. It's very easy for us standing at the pinnacle of creation to look back and see everything ascending to us; this is the sort of conceit of humanity on a naturalistic view that we're the goal toward which it's following. Actually, I got the word wrong here. It slipped right out of my mind as I was saying it. It's orthogenesis. Orthogenesis is the idea that there's a direction to the evolutionary process. Theorists would say that that's not a scientific pronouncement that they can make. That's a philosophical question which they're not equipped to address as a scientist.

Student: I think that answers that. As a quick example, if I was standing by a lake and I didn't see any people standing around but I saw a rock skipping across the lake, I wouldn't think that rock didn't just get up and skip across the lake. Somebody had to have thrown it. There had to have been some origin of that rock skipping. I guess I was trying to picture evolution in that way. Is a scientist looking at that going, *Who threw that rock?*, or are they trying to figure out, *Did nature somehow skip that rock?*

Dr. Craig: I think the question there would be that the scientist wants to discover the cause of the rock skipping across the water, but he would not be asking the question, *For what reason is that rock skipping across the water? Is that purposefully thrown? Is there*

a reason for this rock skipping? Or will he simply be inquiring about the causal chains that led up to the observed phenomenon? And that is a quite legitimate scientific question. The question will be raised: Can you provide a convincing account of the causal chains that lead up to, say, *Homo sapiens*, or will there be, again pun intended, missing links along the way?

Student: One of the things that I don't think should be overlooked, and I just say this based on my own anecdotal experience of talking with people who claim that evolution and theism are incompatible, is that they adhere to what I call terrarium theology where they think of the world as a sort of terrarium where God's goal is to make people happy and then when we look at the grand scheme of the universe we see that it's hostile. So when they claim that it's random, well it doesn't jive with God as I conceive of God, therefore it's incompatible with theism.

Dr. Craig: I have said something similar to that in my work on the problem of evil. We tend to think that if God exists then surely the purpose that he has for us in life is to make us happy in our little terrarium here. We are God's pets, and God's role is to give a nice environment for his human pets. But, of course, on Christian theism we are not God's pets and the purpose of life is not happiness as such but to find the knowledge of God. And so it may well be that in a world that is filled with natural evil and evolutionary suffering and so forth that God's purposes will be most effectively achieved to bringing millions and millions of people freely into a knowledge of himself.⁵