Why Are Evolutionists Now Doubting Evolution? With Dr. Casey Luskin

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FRANK:
Ladies and gentlemen, many people who are considering Christianity get hung up on the theory of macroevolution. They say, well, if macroevolution is true, how could Christianity be true? Well, it might surprise you to learn that the people that have been supporting macroevolutionary Darwinian, neo Darwinian theory are the ones who are now questioning it the most.

And so, we're going to talk about that and get into what is sometimes called Intelligent Design. And my friend Dr. Casey Luskin is here to talk about it. He has a relatively new book with Bill Dembski and Joe Holden called 'The Comprehensive Guide to Science and Faith.' This is a great tool I've been using in my studies. I actually have this in Kindle, and it's great because you can search it.

There's so much great stuff in 'The Comprehensive Guide to Science and Faith.' Now, Dr. Luskin is not only a PhD in geology, he's also an attorney. Why did you want to be an attorney, Casey?

CASEY:
I asked myself that question. [Laughter]

FRANK:
How did that happen? You went to be an attorney initially, and then you decided, well, I want to do something else with my life, or how did this happen?

CASEY:
You know, you have a plan, and then maybe God has another. I was going to do environmental law. I thought that with my earth sciences undergrad and master's, and then a law degree, I'd have, you know, infinite job opportunities in environmental law.

And I was going that direction, but then I got offered a job at Discovery Institute. And your life takes a different direction. So, it was just sort of a quirk of history. Yeah.

FRANK:
So, you work with Steve Meyer and John West, and you're kind of the next generation behind Steve. Dr. Steve Meyer is in his mid-60s, and you're in your mid-40s, and you've been working there for how long?

CASEY:
I came to discovery in 2005, and we've got a number of folks who are sort of the next generation of ID Discovery. It's very exciting to work there right now. Yeah.

FRANK:
Well, I remember when I wrote 'Stealing from God,' I sent a chapter to you, and you were very gracious to review it and give me some good insights on the science chapter. So, thank you for that. But I wanted to ask you, what is going on in the world of Darwinism? Because In November of 2016, the Royal Society, a very august scientific affiliation or association that has been around since the days of Isaac Newton, who actually was...

Wasn't he the president at one point of the Royal Society? Anyway, he was in the Royal Society. So, it's a scientific group that decides to have a meeting in November 2016 that essentially says the theory of neo Darwinism is in trouble. We've got to find a new theory. Why did these Darwinists admit Darwinian evolution is in trouble?

CASEY:
Well, because they know that the evidence is not supporting the neo Darwinian model. And one of the opening lectures at that 2016 Royal Society conference was by an Austrian biologist named Gerd Muller. And Dr. Mueller basically acknowledged that when it comes to this key evolutionary question, how do novel traits arise that the neo Darwinian model has failed to explain that?

That the origin of evolutionary novelty really is the key question. Where do new complex traits come from? And if the neo Darwinian model can't address that, then you know that there's a serious problem. And he was very open about that at the conference.

FRANK:
Now, why can't it address it, Casey? Because we've always been told that microevolutionary changes, if, you know, you add them up, you're going to get macroevolutionary changes. So, maybe for our audience who hasn't heard much of this before, first of all, what is microevolution and how does it compare to macroevolution?

CASEY:
Sure, sure, I appreciate your framing here, Frank. So, microevolution is basically the idea of small scale change within a species. And we see microevolution all the time. And we look within the human species, right? We've got different hair colors, different eyes colors, skin colors, body sizes. And obviously we all share a common ancestor. We're all related.

So, within our species, we see small scale variation. You can take two people from any part of the globe, and in theory at least, they can marry and have children and basically leave fertile offspring. So, we're all part of the same species. That's microevolution. Now, macroevolution is when you have a fundamentally new type of organism coming into existence.

For example, you know, the idea that birds evolved from dinosaurs, I'm a skeptic of that model. But, you know, that would be an example of what's called macroevolution. You have a totally new type of organism arising, and then along the way you have to have new traits.

So, you have to have things like feathers evolving, hollow bones, all kinds of new features that birds need in order to fly. So, macroevolution is basically the evolution of new types of organisms and new body traits.

FRANK:
And what is the process by which we get microevolutionary changes, these changes within a type? You said hair color, skin color. How does that happen?

CASEY:
Well, sometimes it does happen by mutation and selection. You can have small scale changes happening by, you know, maybe one or two mutations. I don't have a problem with the idea that very small scale changes like that can happen. Or even epigenetics. Epigenetics is a new mechanism that biology is discovering where you're not mutating the DNA, but you're turning genes on and off.

And these are what we would call these in the ID community, preprogrammed adaptability. Okay? It's not like it's random and unguided changes that is unlimited, where organisms can change as much as they want. It's preprogrammed variability, where organisms are basically preprogrammed to adapt to changes in the environment very rapidly.

And it's sort of designed or preprogrammed evolution, not unlimited random unguided evolution. So, it's very different from Darwinism. What a Darwinist would say is that you can have unlimited evolution, and that basically random mutations can change one type of organism into a totally different type of organism. And we would say the evidence does not support that.

FRANK:
Well, Darwin and his finches did not find directional change, did he? He didn't find that finches evolved into different types of even birds. He found that finches had different beak sizes depending on the weather. And if that's the case, how does that relate to macroevolution? Can you add up beak changes and get a new type of bird?

CASEY:
Yeah, great question, Frank. So, we're talking about the Galapagos finches and this famous example that Darwin used, he saw that there were different, he called them species of finches on these Galapagos Islands. It turns out that later research that was done by a team of researchers, the grants in the 70's and 80's and 90's and later, that these populations of finches, they're not separate species, they can interbreed.

In order to have a separate species, you've got to have reproductive isolation. You have to be basically not interbreeding with other groups. Well, these organisms, they do interbreed. There's not separate species of finches on the Galapagos Islands.

And then morphologically the changes they have are just small scale variations in the sizes of the beaks. We're not talking about, you know, a fundamentally new type of organism. And it turns out that these beak sizes, they change in response to weather patterns. Okay, so when the weather gets hot and dry and there's a drought and the sizes of the seeds change, then the birds will grow larger beaks in order to be able to crack these stronger seeds that appear in the droughts.

And then when the weather returns to a more rainy pattern, the sizes of the seeds get smaller, and they can eat those with smaller beaks. So, it's what we call oscillating variation, oscillating selection. There's no sort of net evolutionary change going on and there's no new species that have arisen with the Galapagos finches.

FRANK:
Let me ask you a technical question on that, Casey, because is it the fact that the larger beaked birds survived and therefore you had more larger beaked birds in a dry climate, or did the finches actually grow larger beaks? Can we figure that out? I guess is the question.

CASEY:
What's really interesting, there have been studies that have found that the sizes of the beaks are actually controlled epigenetically. It has to do with turning genes on and off, not actually random mutations in the DNA. And so, these epigenetic changes, we see these as sort of like those preprogrammed adaptability where organisms are designed to change within limits.

Not to have this Darwinian idea of unlimited random variation. No, these are preprogrammed changes that organisms are designed to be able to do in response to changing environmental conditions. So, that's really what's going on with the beaks of the finches of the Galapagos Islands. It's preprogrammed adaptability.

FRANK:
Is it fair to say that when we try and breed. Let's just say we try and breed dogs, right? We run into genetic limits using our intelligence, don't we? I mean, we can't break the genus of dogs using our intelligence. So, why should we expect that non intelligent processes can break those limits?

CASEY:
I mean, it's a very good question. Whenever we try to breed a species like dogs as far as we can, we end up seeing health problems. You get things like hip dysplasia or other health problems when you get these very, you know, thoroughbred dog breeds. It's not meant to be like that in nature with the healthiest dog breeds are like a mutt, right, where they have genes, very diverse gene pools.

You want to have that genetic variability. That's what makes a healthy population. So, yeah, the more that we try to breed dogs, we don't see that you're producing new species. We're seeing that you end up producing things that would never survive in the wild.

FRANK:
Okay, so in 2016, now this is about eight years ago, these Darwinists began to realize that the theory that they've had that you can add up microevolutionary changes and get macroevolutionary changes doesn't work. What were some of the reasons for them saying that it just doesn't work, and we've got to get together and find a new naturalistic theory?

CASEY:
Yeah, so I think that they came to realize, and this is actually something that frankly, it's been talked about for a long time. It's just I think they're realizing that this problem isn't being solved. Is that the neo Darwinian model evolution was designed to explain how you change frequencies of genes within a population. Okay, you've got some variability and maybe it gives you an advantage X percentage of the time.

And if you do the math, then the population will shift towards that gene allele variant over time. But there's no model or no theory of novelty of how to generate evolutionary novelty. And of course, the big story in the Darwinian story and the evolutionary story is you get all

these complex new species that are arising. So, you've got to be able to explain how you get new complex features. And the neo Darwinian model just didn't have any way to do that.

Now, at the 2016 Royal Society conference, they did propose some sort of new evolutionary models, something called evo devo that is supposed to help explain how evolutionary novelty arises. When you dig deeper into these sort of post Darwinian models, you find that they too are really struggling to explain how new complex features arise.

So, with evo devo, for example, they will claim that by mutating the early developmental genes that fire off very early as an embryo is developing into an organism, that somehow by changing these early acting developmental genes, you can change the way an organism develops and give it a new body plan.

But it turns out that when we mutate these early acting developmental genes, we don't get new body plans, we get dead organisms. Okay, so there's really no evidence that you can build a new body plan by tweaking these early developmental genes.

So, I think evo devo is not a solution to the problem either. Hopefully they'll figure that out. It may take them some time, but you know, at least they're realizing that neo Darwinism is not the right answer.

FRANK:
Let me see if I understand that right. So, you're saying that the kind of mutation that would give you a new body plan has to be done in the embryonic stage. And if it's done in the embryonic stage, the organism dies.

CASEY:
You don't develop into a living organism. These, they call them developmental gene regulatory networks. They're incredible. They're like these circuits of genes that turn each other on and off and very carefully regulate one another as an organism. A very early embryo is developing into the organism.

And they're so tightly regulated that if you try to mutate those early acting genes and perturb these developmental gene regulatory networks, you don't get a new type of organism, you get a dead embryo. And that's what the experimental research shows.

This was done by a Caltech biologist named Eric Davidson. He passed away a few years ago, but he tried to mutate these developmental gene regulatory networks, and what he found is they don't result in new body plans, they result in dead organisms.

FRANK:
Now, you've been working with Dr. Stephen Meyer for quite a while. You've helped him research a couple of his books. And of course, from a first life perspective, the question is, where did the first genetic code come from? Or the first genome, the first software program? That can't be answered from a naturalistic perspective, at least to this point.

But when you're talking about new life forms, let's just grant, we have a life form, new life forms, you need even more genetic information. And as you're saying now, you would need to somehow mutate at the embryonic level, which would, I think it's called embryonic lethal. Is that right?

CASEY:
Yeah, you're exactly right, Frank. Very impressed. Yeah.

FRANK:
Well, I just, I read your books. I don't know this. I'm reading you. So, it's an embryonic lethal. You're not going to get a new body plan, obviously, if the organism is dead. Okay, so can we go back to what you said? You said something about epigenetics. Can you describe what that is?

I've heard it sometimes put in an analogy between hardware and software. Is that a good analogy to say that, say, the software is the DNA, and the hardware is the structure of the cell, which you call epigenetics? Is that a fair way of putting it?

CASEY:
I do like the analogy that the DNA is kind of like software, and the cellular machinery is kind of like hardware, but epigenetics is kind of somewhere in between. So, epigenetics, the word epigenetics literally means on top of the genome, on top of the genetics. And so, what's going on with epigenetics is rather than mutating the DNA, you are putting molecules physically on top of the DNA molecule. They're called methyl tags or acetyl tags.

And what these molecules do is they will turn certain genes on or off in a particular cell and it'll prevent those genes from being able to be used by that cell. And so, what it does is, so, for example, as an embryo's development. Every single cell in an animal has the same exact genome. Right? But not every cell is the same cell type. You have nerve cells, you have bone cells, you have blood cells.

Well, what causes those cells to be different? It has to do what with what genes are being expressed, what proteins made and created in those cells, what's called the proteome. And the way you do that is by turning certain genes on and off. And that is done epigenetically through these epigenetic tags that are added literally physically to the chromosomes to prevent certain genes from being turned on and then to turn other genes on. So, you do use them.

These epigenetic tags are very important for organismal development, basically determining what types of cells develop into what parts of the body as an embryo is developing. But it's also, we now understand that epigenetics is also important in adaptation. When I say adaptation, don't think I'm talking about Darwinian adaptations. I'm talking about designed adaptations, preprogrammed ability of organisms to rapidly adapt to environmental changes.

And so, what an organism can do is environmental stimuli can actually be read and interpreted by an organism cells, and then those genes that it doesn't need will turn off, and genes that it does need will turn on in response to those environmental cues. And that's all done through epigenetics. It's an incredibly complex mode of biological regulation that we're just discovering now that I think really points to Intelligent Design to allow organisms to rapidly respond to environmental changes.

FRANK:
What would be an example in the human population of an epigenetic adaptation? Would it be, say, Eskimo eyes for snow blindness? I mean, what I'm just trying to figure out, how are our bodies preprogrammed to adapt to the environment? What would be examples?

CASEY:
Sure. So, there's still a lot we don't know. So, I'm kind of going to give a little bit of a speculative answer, but I'm pretty sure from what I'm reaching back into the recesses of my mind, these are the kinds of things.

So, for example, let's say you're in a very cold environment, but you might want to change your metabolic rate slightly. You may want to store more fat. Okay? So, we all have the ability obviously to metabolize fats, to break them down, but you can, you know, you can change your metabolism as we get older. Us guys, we don't metabolize fat quite as well. Right?

So, you can change your metabolism in response and epigenetically. Actually, you know, perhaps if you're in a cold environment, cause your body to store more fat or perhaps, you know, skin colors could be something that conditionally have some changes where you need more melanin.

So, then you'll, you know, if you're in a certain part of the world where you need more melanin to be able to deal with more sunlight, okay, you can do that. If you're in an environment where there's less sunlight, maybe you can have, you know, epigenetics can change the way that you're regulating, you know, your production of melanin. Again, these are kind of speculative answers, I'll confess. But these are the kinds of changes that epigenetics can do.

FRANK:
Now, I know the question is often given or asked by people who might believe in an evolutionary theory is, can this epigenetic information be mutated to get a new body plan?

CASEY:
Not that we can see. These are always sort of small scale modulations in an organism. You know, changing traits very slightly, changing the color of a, you know, a rabbit's fur that lives in the snow, or, you know, changing, like I said, you know, your ability to metabolize certain foods in certain ways to respond to changing diets.

Or, you know, a good example would be the beaks of the finches in the Galapagos Islands, changing the sizes of their beaks so they can eat new food sources, different sizes of seeds that are growing in response to changing weather patterns. So, yeah, it's always small scale changes, basically modulating traits in small ways. You're never creating a fundamentally new body plan.

FRANK:
For that you would have to somehow mutate at the embryonic level, and that always leads to the death of the organism. So, ladies and gentlemen, as you can see, this is why macroevolutionary theory is on the ropes right now. As they look at the data, they realize you can mutate DNA from now until doomsday, you'll never get a new body plan.

You have to change the epigenetics. You have to change the structure at the embryonic level. And when we try and do that, even using our intelligence, the organism dies. So, this is one main reason why macroevolutionary theory is on the ropes. Is there anything else that is causing the... These are Darwinists now.

These are not Intelligent Design people, ladies and gentlemen. They're the ones telling us that this doesn't work. Is there any other evidence that causes them to go, yeah, this macroevolutionary theory doesn't work?

CASEY:
Well, so there's an Oxford evolutionary biologist named Dennis Noble who has been in the news a little bit over the last couple years because he's been saying also that neo Darwinism is dead. Now, his view is that he's still. Don't get me wrong, he's still a materialistic evolutionist.

He's not a supporter of Intelligent Design. He's ultimately committed to material models of evolution. But what he is realizing is that there is purpose and sort of almost like intentionality in the way that organisms operate.

Now, again, he doesn't think that the purpose is coming from, you know, an actual Intelligent Designer or anything like that, but he sees that because there is purpose in the way that organisms respond to environmental changes. Kind of like what we're talking about, that this really contradicts this blind and unguided neo Darwinian model of evolution.

Now, I think there's some tensions in his view. I think that once you acknowledge that there's purpose that points to a purpose, you know, outside the organism, it can't just always be internal to the organism. And I think that, you know, this...

Actually, I'm going to be having a conversation with him on a YouTube channel in a couple of months, so I'm looking forward to that. So, I think that, you know, there's still some tensions in his model of evolution, but at least he's acknowledging that neo Darwinism is dead.

Another very acclaimed biologist who I think has made some statements on this is Jim Shapiro at the University of Chicago. Again, not an ID proponent. He's very much a materialistic evolutionist. But he published a paper earlier this year, earlier in 2024, that this is almost a direct paraphrase, but he said that he thinks that the Intelligent Design critiques of neo Darwinism have merits.

Okay, so this is really encouraging to us because when biologists are willing to acknowledge that us ID proponents have legitimate critiques of neo Darwinism, then I think that we're really starting to make some waves. What's interesting about both of these two guys, Professor Noble and Professor Shapiro, both very good scientists, Frank, they're both at the very tail end of their careers.

So, they're not fearful of the wrath of the scientific community, whether they're Darwinians or something else, you know, coming against them, sort of openly saying that neo Darwinism is flawed. They've had very eminent biological careers. They're very well respected.

They're not afraid to speak their minds. But I think a lot of other scientists who are younger probably are more fearful to speak their minds. I'll give one last example of this. In 2014, there was a pair of papers that were published in the journal Nature, obviously one of the top scientific journals in the world.

And they were actually debating the topic of their articles was does neo Darwinism need a rethink? Do we basically need a new model of evolution? And one of the papers said, no, neo Darwinism is fine. But the paper that said, no, we do need to rethink evolution, Neo Darwinism has serious problems.

Again, these scientists not ID people, they were committed to just a non-Darwinian model of evolution. However, what they said is that many scientists will basically self-censor their criticisms of neo Darwinism out of fear of lending credence to Intelligent Design.

So, what this tells me is that the evolutionary biology community is not in a healthy place. You have scientists openly saying, you know, critics of neo Darwinism, saying that people are afraid to talk about the problems with the evolutionary, the standard neo Darwinian model because they're afraid of lending credence to Intelligent Design. So, I think that that's very interesting to us.

FRANK:
Are they also afraid of maybe upsetting their materialistic colleagues and maybe not getting tenure or being ostracized from the academy? Does that happen?

CASEY:
That absolutely does happen. I mean, Lynn Margulis, who was a member of the national academy of sciences, okay, again, a very eminent biologist, very much a materialist. But she said that as soon as she critiqued, she was a critic of neo Darwinism. She actually said the mutations don't result in new organisms.

They result in dead organisms or sick organisms. That was one of her main arguments. And she said that as soon as she became a critic of the standard Darwinian model, she became persona non grata. Now, she was a member of the National Academy of Sciences, so she could get away

with it. But imagine that you are a young untenured biologist who's having serious questions about the standard Darwinian model. You're going to keep your mouth shut. You're going to be scared to death because you know that as soon as, you know, kind of go against the powers that be, that could really affect your career.

FRANK:
Can you, for our audience, give us the difference between Darwinism and neo Darwinism? What's the main difference between the two?

CASEY:
Sure, sure. So, if we think back to the way that the idea of evolution developed, the idea of evolution and evolution being changed over time, or even the idea that organisms share a common ancestor, that idea existed before Darwin, Frank. That was a very old idea.

In fact, Darwin's grandfather was sort of an early proponent of evolution as well. Darwin's big idea was that the mechanism of evolution was natural selection. Okay, the idea that some organisms are better at surviving and reproducing than others and they will tend to leave more offspring, and a species will evolve in their direction.

So, Darwin's idea was natural selection. But Darwin didn't know anything about DNA or obviously mutations in DNA. He knew there was variability in a population, you could observe that, but he didn't know what caused the variability. He knew nothing about DNA at that time.

So, neo Darwinism is basically combining our modern knowledge of DNA and genetics and the idea that variability arises in populations due to mutations in the DNA. Combining that with the idea of natural selection, Darwin's theory. So, neo Darwinism is just Darwinism plus our modern knowledge of genetics and mutations in DNA.

But now of course we're going beyond Darwinism, right? We know that there's other ways, epigenetic models of evolution. We are actually going back to what is called Lamarckian evolution in some cases where Lamarckian ideas was basically that an organism could inherit certain traits while they were alive.

You know, the old Lamarckian example was the giraffe would stretch its neck to reach leaves that were high up in the tree and then it would leave offspring with longer necks. That's not how it works. Okay, we know that that version of Lamarckianism isn't right.

But when you have epigenetics, where an organism while it's alive might actually be receiving cues from the environment and those cues can then be translated into the DNA where it actually will be turning certain genes on or off, and you can pass those epigenetic tags onto your offspring. We now are seeing that you can actually perhaps have some changes to the way your genes are being expressed that occur while you're alive to your body.

You can pass those onto your offspring. And now you can have what's called neo Lamarckian inheritance using these new epigenetic models. But again, none of this is fundamentally changing the body plan, Frank. We're talking about, we in the ID community see these as really exciting developments. They show how microevolution can occur. Small scale changes, predesigned adaptability that is allowing organisms to respond to environmental change so they can adapt within limits. Within limits.

FRANK:
It almost seems like an analogy might be an autopilot, right? An autopilot is preprogrammed to adjust the course of the plane given changing environmental conditions outside the plane. But that autopilot's designed, it's designed to do that.

And that's why, you know, if the wind changes, the autopilot will change the heading of the plane so it can stay on course in order to crab into the wind. And maybe this is too crude an example, but it seems to me that's essentially what you're saying can happen with this epigenetic capacity to adapt to the environment. Is that fair?

CASEY:
I think it's a great analogy, Frank. I'm going to use that analogy. Yeah. It is kind of like autopilot, where an organism is designed to self-correct in response to certain environmental changes. And then those changes can actually be some cases passed on to the offspring, or you know, like a radio. A radio you can set your presets to your favorite stations on the radio. Right?

But you're not actually going to fundamentally change the way that the radio works. You can't change the body plan of the radio, but you can fine tune maybe the frequencies that it's tuning into. That's kind of like how epigenetic changes can work.

FRANK:
Okay, so you're sort of at neo-Darwinism now. You keep learning more and more about how the body can adapt itself to the environment. But as you pointed out, this doesn't give you a new body plan, it just helps you survive within the body plan you already have.

CASEY:
Yeah, and one of the key points of Darwinism or neo Darwinism is that the change is always blind and undirected. Mutations are supposed to happen without regard to the needs of the organism. And this is why, you know, there's been a lot of theological concerns about Darwinism, that it's strictly an unguided, undirected model of evolution. But epigenetic changes, they are not strictly unguided.

They're happening in response to environmental cues. And it's like the organism is designed to be able to respond to those environmental cues to help it to survive. And so, it's a very different way of looking at it. And look, I'm not saying that these epigenetic changes are allowing organisms, you know, like a dinosaur to evolve into a bird or some land mammal to evolve into a whale.

No, I don't believe that the evidence shows that that's possible. But we do see preprogrammed adaptability. And I think that's something you would expect from a design based model of organisms.

FRANK:
Can you steel man the macroevolutionary viewpoint for those that still believe it? In other words, what is the best evidence that we share a common ancestor and that the body plans that we have were given to us without intelligent intervention, that somehow this happened randomly? If the top evolutionists in the world, were you right now, what would be the argument you would give for that case?

CASEY:
Sort of play the devil's advocate.

FRANK:
Yeah, go ahead, go ahead.

CASEY:
Okay, so you would make the case that you have shared body parts and shared DNA, shared genes among many diverse species. Okay? You would say, well, look, when you look at the mammalian body plan, we all have a similar vertebrate limb structure, okay? Whether you're talking about a bat, or a whale, or a horse, you have the same basic bones in the body structure of the vertebrate limb.

Or you would talk about the DNA and say, look, when you look at the way that the genome of a human being is designed compared to a chimpanzee, yeah, we share a huge percentage of DNA in common, and that is evidence of our common ancestry. You go back even to compare the genome of a human being to a dog, you're going to find a lot of genetic similarities, a lot of genes that are being shared, and that is evidence of our common ancestry. So, I think those are the kind of arguments you're typically going to hear.

FRANK:
So, you're getting similar structure and similar genetic information.

CASEY:
Those are the common arguments.

FRANK:
Okay, what would be the counter to that?

CASEY:
Well, the counterargument would be, as far as the genetics go, is that, okay, fine, we do have similar genes. I can grant that. But you can have similarities arise and not necessarily due to common descent, but due to common design. It's actually a good design principle to reuse parts

that work in different designs. So, for example, I've done a lot of computer programming. I wrote about 30,000 lines of Python code during my PhD work, Frank.

So, things I try to forget. And I would frequently reuse code that I had written previously in new programs, or if I didn't know how to solve a problem, I would Google it, go to Stack Exchange and figure out how to code something in Python or whatever.

So, programmers will regularly reuse functional coding modules in different programs. It's just a good design principle because it's a way of reusing parts that work. So, the fact that we see similarities between a human and a dog or a human and a chimp could just mean that we're designed based upon a common blueprint.

But it gets a little bit deeper than this, Frank, because it's not just the fact that we have mere similarities. What an evolutionist is claiming is that when you compare similarities across different species, you can construct what's called a nested hierarchy or a tree of life. Okay?

And it turns out that when you try to construct a tree of life. You compare the distribution of genes in different organisms. That one gene will give you one version of the tree of life, and another gene will give you a totally different and contradictory version of the tree of life. I think we had a little email exchange about this a couple years ago.

So, as evolutionary systematists, that's the field, it's called systematics. As systematists have tried to build these trees of life using DNA or using body parts, they're not coming up with a consistent picture of how organisms are related. And what it basically comes down to is that common ancestry is not doing a very good job at predicting the distribution of traits. Okay?

You're not finding the distribution of traits fits a nice, neat Darwinian tree. And I think this is very much what we would expect from a design based view. Sure, you see a lot of reusage of parts and that allows you to have some kind of tree like structure in the distribution of traits.

But you see a lot of traits that don't fit a Darwinian tree. I think a great example of this within mammals would be echolocation. Okay, what are the two types of mammals that use echolocation? It's the bat and it's the whale. Right?

Well, they are on very different, very different parts, very different branches of the mammalian tree. All right. They are not closely related. It is not thought that there was some common ancestor of bats and whales that had echolocation, and then that common ancestor led to those two groups being able to use echolocation to find food or navigate or whatever.

So, the fact that those two groups can do this shows that you have traits that are not distributed in a nice, neat Darwinian tree. Let me give you one last example. We're talking about sort of genetics right now, but let's talk about body traits. All right. We talked about the vertebrate limb.

I'm sure that many of your listeners and viewers have seen that old diagram in almost every biology textbook showing the limb of a dog and a human and a horse and a bat and a whale, saying, oh, the same body structure shows that we all share a common ancestor. Right?

Well, at Discovery Institute, we're actually supporting a lot of research these days into the scientific evidence for Intelligent Design, and that challenges evolution. And we recently funded an engineering professor in the UK named Stuart Burgess who published a paper looking at the vertebrate limb structure.

And what he found is that there are actually very good functional reasons for reusing the same vertebrate limb structure in different animals. Whether we're talking about a whale, or a dolphin, or a bat, or a cat, or whatever.

It's a very versatile limb structure that's very good at being used to perform the structure, the functions that it performs in different types of mammals. So, what he actually showed is that you can explain the reusage of the vertebrate limb pattern not necessarily based upon common ancestor ancestry but based upon good functional design.

Looking at it from an engineering perspective. You just published this, actually in a mainstream biology journal. So, we're really excited to see that you know, there's evidence coming out that shows that you can understand a lot of these similarities in organisms, not necessarily through a common ancestry lens or a Darwinian lens, but through a design type of lens.

FRANK:
Sure, yeah. Why do most vehicles have four wheels? Because it's the right design for this biosphere in which we live.

CASEY:
Exactly.

FRANK:
Why do airplanes have two wings? Because it helps you fly. [Laughter]

CASEY:
We even use wheels on airplanes, too. Right? And we use wheels on cars and airplanes and many different things because we reuse parts that work in different organisms. We don't have to appeal to common ancestry.

FRANK:
Now, I've heard the counter to this, Casey. In fact, this occurred. We were at the Evangelical Philosophical Society meeting in San Diego. This had to be five or six years ago. And there was a group of theistic evolutionists in the room and a group of ID people.

I don't know if you were there or not, but Steve Meyer was there and I happened to be there, and I had an opportunity to ask the evolutionists a question. And here was my question. The question was, is there any evidence that you see that cannot...

How did I put it? Is there any evidence that you see for a macroevolutionary common ancestry view that could not also be interpreted as evidence for a common designer? You know, you have to interpret it as a common ancestor, in other words.

And there was a long pause, and then one evolutionist spoke up and he said, well, we think we found an error in the genome in the same place in chimpanzees as we find in humans. So, why would a designer put an error in the same place?

It's more likely that this error is a result of the trial and error common ancestry model. And at that point, Stephen Meyer jumped in, and he said, well, we don't think those supposed errors are really errors. We're finding that they're not errors and they have function. Can you amplify that answer?

CASEY:
Yeah, great comment, Frank. You know, if I was in their position, I would say the same thing. I think that, that they're making a fair argument. If there really are "molecular errors" in the same location in the genomes of, you know, species that are supposed to be closely related, I would say that common ancestry would be a better explanation than common design or whatever.

That makes sense. But I also agree with Steve Meyer. I think that as the more we're looking at this, we're not finding that they're errors. Let me give you a really poignant example of this. Okay. I'm going back a few years now, but in 2005, there was a famous court case over the teaching of Intelligent Design in public schools.

It was called the Dover trial. You, you probably remember this. I actually got to sit there and observe about a third of the Dover trial in person. I had just started working at Discovery Institute. We were not a party to that case, but, you know, we were interested in what the outcome was. One of the evolutionists who testified as an expert witness in that case against Intelligent Design is a Brown University biologist named Kenneth Miller.

FRANK:
Yeah, I've heard of Ken Miller. I had him in 'I Don't Have Enough Faith to Be an Atheist.'

CASEY:
Yeah, there you go. There you go. Yeah. So, Ken Miller made this exact argument that you're talking about. He said that there are molecular errors in humans, in chimps, and gorillas, that cause what is called a pseudogene, something called... It's basically a gene that once was functional, but because of this mutation that caused an error, that gene is no longer expressed properly.

It's no longer producing a functional protein. And he said that this particular pseudogene, it's called the beta globin pseudogene, that, he said it is very, very strong evidence that humans and chimps and gorillas, number one, their genomes were not designed, and number two, they share a common ancestor. Okay?

And so, he used this as a very strong argument against Intelligent Design. This was back in 2005. Okay. So, over the years we have learned more and more about this "beta globin pseudogene." And there was a paper that came out in 2013 that said, you know what, when we look at this pseudogene and we compare the DNA sequence in human, chimp, and gorilla, it's actually a lot more similar than we would expect if it really was just this sort of this dead gene that was just randomly accumulating mutations because those mutations didn't matter, right.

Because it wasn't doing anything. It could just mutate until the cows come home. And they said it doesn't look like it's doing that. It looks like actually these genes are more similar than we would expect if it was nonfunctional.

And that suggests there is some function that's being preserved here that is preventing from random mutations from accumulating. That was in 2013. And then a couple years ago there was the Natural History Museum in New York put out on its YouTube channel this old lecture by Eugenie Scott. You remember Eugenie Scott?

FRANK:
Sure, yeah.

CASEY:
Yeah, she's still around. But you know, she was a very prominent ID critic and in this lecture, she was repeating Ken Miller's arguments about the beta globin pseudogene. I thought, you know what, I'm going to look into this. I'm going to see if there's any new research that's been published on the beta globin pseudogene and is it really considered to be, you know, have they discovered anything new about it?

And to my not necessarily surprise, but to my, I would say I was very pleased by this. There was a paper that came out in the journal Developmental Cell, in I believe it was 2021, that found

that what Ken Miller called this useless nonfunctional beta globin pseudogene, they found in this paper it's actually essential for producing red blood cells in human beings. Okay, so this is a great example of how what evolutionists often assume are mistakes or nonfunctional junk DNA, it actually turns out to be very important and performing very important roles in our bodies.

So, I think this is a really good sort of, you know, morality tale or sort of, you know, lesson to learn here to be very careful about evolutionary arguments that something is a mistake o that it's really just useless junk DNA, because the more that science is discovering, we're discovering that really our DNA is not largely junk, it's largely functional. And these are not very strong arguments to make.

FRANK:
Ladies and gentlemen, I want to mention to you that this coming Friday on the podcast we're going to have Laura Hanford on who is an expert in where the government is taking children from their parents to transition them. This is happening in America right now. You don't want to miss this coming Friday's podcast.

Also want to mention tonight we're going to have Kyle Mann of The Babylon Bee on to talk about their brand new movie, 'January 6: The Most Deadliest Day.' We'll also take your questions. So, tonight on October 29th at 9:00pm Eastern Time, tune in. If you're listening to this afterwards, it'll be on our YouTube channel.

Also want to mention tomorrow, October 30th, is the last day to sign up for 'Why Does God Allow Evil?' The premium course with Dr. Clay Jones. Because tomorrow night on the 30th is the first live Zoom Q&A a session with Dr. Jones. You don't want to miss that course. Go to crossexamined.org, click on online courses. You will see it there.

You know, we're always told that the ID people are the science stoppers, but here's an instance where the reverse is true. The Darwinists are the science stoppers because they stopped looking at the non-coding region of the genome because they thought it was just junk.

Now, I've been told and read that ID theorists thought that if they investigated the non-coding regions of the genome, and friends, generally it's thought that only 2% of the genome codes for

proteins. The other 98%, according to Darwinian theory, was supposed to be junk, just from trial and error. We're now discovering that's not the case. ID theorists have been looking into the non-coding regions to see if they could turn cells on and off, which has implications for cancer treatment. Because if you can turn cancer cells off, maybe you can cure cancer. Has that, has that story...? Can you amplify that story at all? Is that what's been going on?

CASEY:
Yeah, this whole story is one of really a spectacularly fulfilled prediction of Intelligent Design. You know, going back into the 1990's, early 2000's, really before the Human Genome Project, exactly what you said, Frank. Only one or two percent of our genome encodes proteins. And the evolutionary view was that the vast majority of the rest of the genome wasn't doing anything.

It was just genetic junk. You get different estimates depending upon who you ask. Some folks would have said, you know, 80% of the genome is junk. Some would have said 90, some 95, some 50%. But the bottom line is they thought that very large proportions of the genome that did not code for proteins was junk.

Then the Human Genome comes out around 2002 and yeah, they find that yeah, only one to two percent of our genome encodes protein. But then they started to realize, you know what, that can't be the whole story. There has to be more going on in the genome because we have all these sections of the genome that have to be regulating the genes.

And they started to discover that much of this non protein coding DNA, what much of it used to be thought of as junk, that it in fact was basically regulating the expression of the protein coding parts of the DNA. So, it's kind of, I like to use the analogy of building a house where if you think of a building house, you need the basic parts, you need the wood, you need the bricks, you need the mortar, you need the nails.

That would be kind of like the protein coding DNA that's encoding the actual structural parts of the body, right? But then you've got to have a blueprint to tell you where to put the wood, where to put the nails, where to put the bricks, where to put the mortar, etcetera, etcetera.

That would be like the non-coding DNA. It encodes the blueprint that basically is controlling the gene, protein coding DNA and telling it what to do. So, the non-coding DNA that, you know, what was largely considered junk is now understood to be hugely important.

So much that just a couple of years ago there was a paper in their journal, Genome Biology and Evolution that said that the days of junk DNA are over. And so, we're just seeing, you know, really the biology community now has undergone what I would call a major paradigm shift over the last 10 to 15 years. And it wasn't because of the evolutionary view.

It was in spite of the evolutionary view that really just, you know, scientists got kicked and, they were dragged kicking and screaming because the data showed that the non-coding DNA was largely functional. And it does all kinds of different things beyond just regulating gene. As you said, Frank, it can encode, you know, things like it can be involved with cancer.

In fact, so much of the non-coding DNA is important for keeping genes from being expressed at the wrong time, that when you get a mutation in the non-coding DNA, that can be why you get cancer. Right? Because this non-coding DNA element might be silencing a gene, but then you turn it on at the wrong time and now you're starting to get cell growth when you don't want it. Okay?

And so, it's so important to have the non-coding DNA doing what it's supposed to do. It's basically keeping everything fine-tuned, tightly regulated, and controlled, and in check. So, very, very important.

FRANK:
Ladies and gentlemen, this is massively complex, and it has all the earmarks of design. Our human body, the human cell does. So, let's just spend a few minutes, Casey, because we're running out of time here. Let's just spend a few minutes instead of pointing out the problems with the Darwinian view, the positive case for an intelligent view.

The biggest objection, you're going to get Casey. And we all admit that none of these arguments get you all the way to the God of the Bible. It could be the God of the Bible, who's the Intelligent Designer. But no argument says, oh, this has to be Jesus.

You need historical data for that. You need to look and see whether Jesus rose from the dead to see if the designer really is Jesus. But it does point toward an intelligence beyond the universe, it appears, because even an intelligent alien would need to be designed himself.

So, you're ultimately going to get outside the universe for this Intelligent Designer. But here's the biggest objection. You hear it, I hear it, Steve Meyer hears it. Everyone hears it. God of the gaps. You're plugging God into the gap of your knowledge. Dr. Luskin. One day we're going to find a natural cause for all this, even though we're befuddled right now. How do you respond?

CASEY:
Yeah, so the God of the gaps argument is the idea that we are just inserting Intelligent Design or God into the gaps in our knowledge. So, you don't know how this system evolved, therefore you're saying that it was designed. And the answer to this question is no. Our argument for design is not based upon what we don't know.

It's based upon what we do know, because we know that we talked earlier about the origin of new complex traits. Well, new complex traits, new body plans, are always going to require new code, new information in an organism. But where in our experience does new code, new information come from?

In all of our experience, new code, new information comes from intelligence. Okay? If you've got a computer program and you want to upgrade it and you want to put new code into it, you don't run it through a random code generator. You use an intelligent agent to create new code. Even if you're using AI to create code, that AI was programmed by an intelligent being that's able to process code and give you functional code.

So, it's always tracing back new information, new code, always traces back to a mind or a personal agent. So, our argument for design based upon the presence of information biology is not at all based upon some gap in our knowledge. It's based upon our positive knowledge that information and code always requires a mind.

So, I think that's really the answer is that, and this is why I'm so excited about Intelligent Design, is that we can make all kinds of positive predictions that help us to understand how biology works based upon our knowledge of what intelligent agents can do. Intelligent agents produce new code, new information. Intelligent agents produce things that are functional.

That leads us to predict function for junk DNA. Intelligent agents will reuse parts that work in different designs. That leads us to predict that we'll find different traits being reused in different organisms. You know, echolocation in bats and whales, but not necessarily in a pattern that has to fit a Darwinian tree. Or organisms when they were intelligent agents, when we build things, we tend to introduce them fully formed, ready to go into the world around us.

Well, that could be reflected by this. We didn't talk about this, but, you know, this repeated pattern of explosions that we see in the history of life in the fossil record, where new types of organisms appear abruptly without evolutionary precursors.

So, when we look at biology, we can make all kinds of predictions based upon our positive knowledge of what intelligent agents do. And that can help us to better understand how organisms work in the present day. So, I'm very excited about ID being a tool we can use to better do science in the future.

FRANK:
Let me, let me throw another objection at you to ID. It's religiously motivated.

CASEY:
So, my answer to that is that in science, motives don't matter. I mean, Isaac Newton was religiously motivated to discover his fundamental laws of motion, right. And his fundamental laws of gravity. And he was religiously motivated because he believed in a God who was a lawgiver who would create the universe according to certain orderly principles.

And he believed that if he went out and studied nature, he could discover literally these laws, these ideas that were in the mind of God. Okay, so Newton was religiously motivated, and it led to all kinds of good, fruitful science.

It actually helped give birth to the scientific revolution. And when we're standing on Newton's shoulders today. So, the idea that, you know, motives, number one, they don't matter. You know, it doesn't. Whether what my motives are don't determine whether or not I'm right.

But actually, in fact, we see from the history of science that religious motives can actually lead to very good science. So, you know, and if you want to play the motive game, by the way, we can play that same game with our evolutionist friends. I mean, leading evolutionary scientists like Eugenie Scott is a signer of the third Humanist Manifesto, which is trying to create this aggressive statement of a world without supernaturalism.

You know, leading evolutionary scientist Jerry Coyne at the University of Chicago is a very outspoken atheist. Richard Dawkins is both the world's most famous evolutionary biologist and the world's most famous atheist. Okay, so if you want to play the motive game, we could say the same thing is going on with evolution. Oh, they're just trying to disprove God.

Well, I don't want to play that game because I want to be fair. And I recognize that in science all that matters is the evidence. Your motives simply don't matter. And religious motives are. You know, if you look fairly at the history of science, religion actually has done quite a bit of good towards inspiring good science. So, I see no problem here.

FRANK:
Yeah, in fact, every founder of modern science was a Christian. You can trace that. J. Warner Wallace does in his book 'Person of Interest.' Because we believed, as Christians, we believe there's order to the universe and that God operates through these orderly natural laws which he creates and sustains.

In fact, we couldn't do science without that, ladies and gentlemen. That's why you need God for science. Because God is the being that created the laws and sustains the laws as they are, so we can find reliable cause and effect. If there was no orderer, we couldn't find reliable cause and effect.

In fact, we wouldn't even exist to do so. So, God is behind the universe that we have and can observe and can discover reliable cause and effect. If there was no God, nothing would exist

and neither would this order exist that we have now. Let me throw another objection at you, and that is, Casey, you're making analogies from human design to this designer that is beyond humanity. Yes, all code comes from a coder. But we can see the coder. There he is, he's Jorge, right there. He's a coder, right? We don't see this Intelligent Designer you're talking about. So, how do we know this Intelligent Designer exists?

CASEY:
So, this is exactly how historical sciences work, Frank. You look at the present day world and you try to understand causes that are at work in the world around us today. So, for example, I see that when, today, when a volcano explodes, as I got a geology background, it will lead to an ash layer in the surrounding region.

Okay, so when I then go into the historical geological record and I see an ash layer, I can infer that a volcano went off. Now, I'm not seeing that volcano go off. Maybe it went off, you know, many thousands of years ago. In fact, maybe all the evidence of that volcano has been completely erased.

That volcano has been completely eroded down. It doesn't even exist anymore. But it left a trace in the geological record through that ash layer. I can infer that the volcano did exist, and it did go off. Intelligent Design works in exactly the same way. We can observe in the present day what intelligent agents do, and we can understand the kind of information and complexity that intelligent agents produce when they act.

So, then when we look at the historical record and we say, okay, here at the Cambrian period, you know, there were all these complex body plans that appear suddenly. They would require huge amounts of complex and specified information. It's this abrupt appearance of all these diverse new body plans.

We can infer that an intelligent cause is the best explanation for all this information that had to explode into existence in the Cambrian period through all these, you know, new animal forms that appear. So, I'm not there. I can't go back in time. I don't have a time machine. But I can use my knowledge of how the present day works.

That information always comes to our mind to be able to infer back that there had to be an intelligent cause present to be able to cause the Cambrian explosion to occur. Okay, I know we didn't talk about the Cambrian explosion, but you know.

FRANK:
Well, give our audience a minute on the Cambrian explosion so people can understand what you're saying.

CASEY:
Sure, sure. So, the Cambridge explosion is a very famous event in paleontology, in the history of life, where basically almost all of the major living animal groups, we call them phyla, appear abruptly in the fossil record without any direct evolutionary precursors.

We're talking about animals as diverse as vertebrates, or arthropods, or echinoderms, or mollusks, and they all appear in basically their modern body plans very, very rapidly without any clear evolutionary precursors. There's other types of organisms that appear as well in the Cambrian explosion, and even Richard Dawkins acknowledges that he says it is as though these Cambrian animals were just planted there without any evolutionary history.

Of course, he thinks the history happened. It just was hidden. We don't have a record of it. What ID theorists would say is that we can take the fossil record at face value and see that this is very compelling evidence for design in the history of life.

FRANK:
So, these body plans appear abruptly. I thought I read, maybe I have this wrong, that 20 out of the 28 phyla, the major body plans appeared. Is that the right number? Approximately.

CASEY:
It's something around there. Those numbers are pretty close.

FRANK:
Okay, all right. So, the majority, the vast majority of body plans appear without any fossil precursors. We don't see any intermediate fossils to go from simple to complex. The fossil record, and Darwin recognized this. This was part of Darwin's doubt, correct?

CASEY:
That is correct, yes. Darwin was aware that there was a problem that basically he didn't call it the Cambrian period in his time, but, you know, he was aware that you have this abrupt appearance of animals in the fossil record.

And you know, for those phyla that don't appear abruptly in the Cambrian, it's not that they're appearing earlier, maybe one or two appear earlier, but most of them don't even have a fossil record or they don't preserve very well. So, I don't think, you know, there may actually be more that appeared in the Cambrian. We just don't know. Yeah.

FRANK:
Okay, when I only have a few minutes to talk to somebody about this whole issue, I will put it in an acronym. Here are the problems with macroevolution. It's life. And we talked about most of it already. Limited change genetically. You can't change a body plan indefinitely. We talked about at the top of the show.

The I, I want to cover in a minute. That's irreducible complexity. The F stands for the fossil record we just talked about, and the E stands for the epigenetics we already talked about. So, L.I.F.E. And there's more issues with macroevolutionary theory. But those are four basic problems with it. You've got limited change; you've got irreducible complexity.

You've got the fossil record, which doesn't line up with their view of common ancestry over a long period of time and in intermediate forms. And then you've got the epigenetic problem. Let's talk about irreducible complexity for just a minute. First of all, what is that and why does it show gradualism can't really occur?

CASEY:
Sure. So, irreducible complexity is an idea that was a term that was coined by a biochemistry professor at Lehigh University named Michael Behe. He's part of our ID community. And the argument is basically that there are many features, many complex features that we see in living organisms, especially molecular machines in the cells, and they require many parts to be present before they give you any function. Okay?

So, Darwin's theory requires that a structure evolve one small little mutational step at a time. But the problem with these irreducibly complex structures is they require many parts to be present before they give you any function that can help you survive and reproduce.

So, you can't build them up one small step at a time. It's kind of like an all or nothing game. Either all the parts are present, and they give you a function, they help you survive, or you're missing a part, and they don't work at all, and they can't basically be preserved by natural selection.

So, these pose a direct challenge to Darwin's theory. They're irreducibly complex because if we were to reduce the complexity, they wouldn't work. So, it's irreducible.

FRANK:
How did the Darwinists try and get around that? How do they try and say a gradual process can give us the new organism we want, and we'll have function the entire way in light of irreducible complexity?

CASEY:
Yeah. So, they basically say that the function has to change during the evolutionary pathway of that structure. That initially maybe some parts of this machine were used to do something else, and then they got borrowed or co-opted in the cell to perform some new function.

I'll give you an example. This is a very silly example, but this is the kind of argument that you're going to hear. Like, you know, if I want to explain how my laptop evolved, they will say, oh, well, your laptop's power cord, maybe it could also be used to power a toaster, and your laptop screen, maybe it could also be used, you know, in a TV.

And your keyboard, maybe the keyboard could also be used on a cell phone. Okay, so you borrow the keyboard from one place, the power cord from something else, the screen from somebody else, and suddenly you magically kind of retool those parts so they can fit together and give you a totally new complex machine. If you're thinking right now, well, there's a lot of detail that's missing from that explanation.

You can't just, you know, through unguided random mutation, steal a bunch of parts from other systems, retool them, and suddenly put them together to fit and perform some totally new complex function, a new machine. If you're a little bit skeptical of that, then you're right.

I mean, they never provide the detail of how these co-option models work. And so, I would say it's a lot of hand waving. It's not a very good answer to irreducible complexity. But this is the direction they like to go with it.

FRANK:
Yeah. And each of those individual parts are already themselves irreducibly complex. The power cord, the TV, the phone, you know, they would still need to be explained. So, that sounds like a lot more... That would require a MacGyver approach.

CASEY:
It requires Intelligence Design. If you want to actually take a bunch of parts, borrow them, retool them, suddenly reconfigure them to work in a new machine, you need Intelligent Design.

FRANK:
Well, Casey, there's so much more we could talk about, and there's a lot more that people can get in the new book, 'The Comprehensive Guide to Science and Faith.' Casey is one of the editors here, along with Bill Dembski, who's forgotten more than I'll ever know. I'll tell you. Dembski has two PhDs. You have a PhD. Joe Holden as well. What's in this book so our listeners can know before they go pick it up?

CASEY:
Yeah. Thank you very much, Frank, for talking about that book. You'll get very concise, readable chapters that are packed with information that answer hot topic questions in the sort of the debate over science and faith. And so, I think you'll get lots of concise, easy to follow responses to common questions people ask.

FRANK:
You've got people in here like Doug Axe. We've had Doug on the show before. You've got Michael Behe, that's who he just mentioned. Gunter Beckley was a naturalist and became a theist. Is he a theist now?

CASEY:
Yeah. He's got a great chapter on the fossil record in that book.

FRANK:
Walter Bradley, one of the top folks in the world on the origin of life. Guillermo Gonzalez, Bruce Gordon.

CASEY:
Steve Meyer wrote the foreword. We got a lot of great people. Brian Miller.

FRANK:
Brian Miller's in here. Hey, the great Richard G. Howe's in here, too. Fuzz Rana, Hugh Ross, Jay Richards. Jay Richards, the Renaissance man, good at everything. We've got Steve Meyer, Brian Miller, Paul Nelson, Denise O'Leary, Jonathan Wells. The late Jonathan Wells, great man, just passed away. John West, Fritz Schaefer. These are all top names.

CASEY:
We were very, very fortunate to have some great people involved. Yeah.

FRANK:
Yeah, ladies and gentlemen, this will be a comprehensive read, but the cookies are on the bottom shelf in this book. So, if you want to really get a great guide to science and faith, get

'The Comprehensive Guide to Science and Faith,' co-edited by my guest today, Dr. Casey Luskin. Casey, if people want to see you online, where do they go?

CASEY:
They can go to caseyluskin.com or Discovery Institute's website is evolutionnews.org.

FRANK:
Evolutionnews.org, Casey Luskin. Casey, it's been a pleasure. Thanks so much for all you're doing.

CASEY:
Thank you very much, Frank.

FRANK:
All right, God bless you guys. See you next week.