

Intelligent Design vs. Evolution

Opening Billboard: Funding for this program is provided by the Bernard and Irene Schwartz Foundation, the Smith Richardson Foundation, and the Lynde and Harry Bradley Foundation.

Hello, I'm Ben Wattenberg...

In recent decades Charles Darwin's explanation of evolution through natural selection has been challenged by an alternative theory called Intelligent Design. A growing number of science teachers and school boards are struggling with how to present students with the facts. Even acknowledging the existence of an argument has become controversial. How should students learn the history of life on this planet? Are Christianity and other major religions incompatible with Darwinian evolution? Is there any evidence to support the new theory of intelligent design? Can ID and Darwin find common ground?

To find out, Think Tank is joined this week by Dr. Stephen Meyer, director of the Discovery Institute's Center for Science and Culture and author of *Darwinism, Design and Public Education*.

...and by Dr. Michael Ruse, Director of the Program in the Philosophy of the History of Science at Florida State University and author of numerous books including *Darwinism and Design* and *Can a Darwinian be a Christian?*

The Topic Before the House: Intelligent Design vs. Evolution, Survival of the Fittest?

WATTENBERG: Welcome to Think Tank, gentlemen. Michael Ruse, Steve Meyer. It is a delight to have you. The topic to me is a fascinating one. Let me break precedence here and begin with the younger. Steve Meyer, is intelligent design different from creationism?

STEVE: It is. It's also different from Darwinian evolution. Maybe I could explain what it is and then the contrast between the two will be clear.

Intelligent design is the idea that there are certain features of living systems that are best explained by designing intelligence, rather than an undirected process. That is, by studying nature, you can tell something of the effects that an intelligence has had on nature. Creationism starts from a different premise. Not the biological evidence, but rather, it starts from holy writ from the bible and makes an interpretation about the length of the days in

Genesis.

WATTENBERG: But it's not just the bible. Every religion has this creation myth.

STEVE: Sure. But the theory of intelligent design is an inference from biological data, not a deduction from religious authority. We're looking at things like the little miniature machines that are being discovered in cells. The rotary engines, the nano technology. The turbines, the sliding clamps, the intricate circuitry that's being discovered inside cells. And especially important is the libraries of information that are stored in the DNA molecule in the form of a four character digital code. For us this is the basis of the inference to design. Not something that you deduce from scripture. So we're different from the creationists, but we're also different, not from people who hold to evolution. We're not against evolution per se. Because evolution can mean change over time or even common ancestry, which are not meanings of the terms that we dispute. But we do challenge the specifically Darwinian idea that life is the result of a purely undirected process that merely mimics the powers of the designing intelligent so that the appearance of design is an illusion. And classical Darwinism and modern Darwinism both say that things look design but they're not really, because natural selection produces that appearance. We disagree with that and say that life really is design.

WATTNEBERG: Michael, before you, I assume, rebut that, give us a little bit of your background and later Steve, you could do that also. Where'd you go to school? Where'd you grow up?

MICHAEL: Yes. Well, I'm a historian, philosopher of science, who specializes in Darwin. Obviously, I was born in Darwin's country; I'm English. But I've lived in North America for the last forty something years. And I've gone all the way from rather technical philosophy of science in my early years, to a fairly full-blown engagement with creationism, with intelligent design theory and many of these other sorts of issues. I teach now at Florida State

WATTENBERG: Okay, what problem do you have with your young colleague here?

MICHAEL: Well, I think Steve's a really nice guy. I've known Steve for many years. I think he's a bit of a sweetie, but as Winston Churchill once said, I think pretending that intelligent design theory has nothing to do with religion is what Churchill called, what was it, "a terminologically inexactitude." In other words, it's a great big fib. I agree with him completely that old fashioned creationism -- and old fashioned creationism is only thirty or forty years old -- but that I agree with him. I think there's a difference between

creationism and intelligent design theory. I think...

WATTENBERG: Now wait a minute. You say thirty or forty years old. William Jennings (Bryan?) in the scopes trial; that goes back eighty years.

MICHAEL: Actually, I'm glad you asked that question. Because I've got an answer to it.

WATTENBERG: That's what I get the big bucks for.

MICHAEL: Right. In fact, people like William Jennings Bryan for instance, him in particular did not believe that the earth was that young. They certainly did not believe that the earth was six thousand years old. When William Jennings Bryan was asked by Clarence Darrow on the witness stand about the six days of creation, what Bryan said is, "in the eyes of the Lord, a thousand years honors a day." He said, "as far as I'm concerned, that's not the issue." He said, "If you want to believe that it's a short time," he said, "I've got no problem with that, but it's not my position." Only since the second world war that we've really started to get in a major way, this young earth creationism. This six thousand years. Which, of course, as people like Ron Numbers have pointed out, is in fact, a Seventh Day Adventists belief, which does in fact, go back to the nineteenth century Seventh Day Adventists were very keen on the six days being literal days because the Sabbath also had to be a twenty-four-hour day.

WATTENBERG: Yeah, but you can define a day as a lot of things.

MICHAEL: You can, but if you wanted to find it...

STEVE: You understand, Ben, that we have no problem with the ancient chronology of the earth...(Unintelligible) Creationism is not our position.

MICHAEL: I appreciate that. But what I'm saying is that basically the creationism that you and I, Ben, would've grown up with – I mean Steve's a bit young for it -- but the creationism that we grew up with dates back to 1961 in a book called Genesis Flood by a couple of people, Henry Morris, a scientist, and John Whitcomb, a bible scholar, where they argue that the earth is, in fact, six thousand years old, and it was six days of creation, and of course, the massive flood.

MICHAEL: What I'm saying is I agree with Steve completely that intelligent design theory which goes back I think the last eighties, 1980s, and certainly...

STEVE: Actually, earlier than that.

MICHAEL: Well, certainly -- well I think it goes back to Plato of course, cause I don't think you're saying anything new, but certainly as we know it, I think certainly was started by Philip Johnson in a big way with his book

Darwin on Trial in 1991. And certainly that was the thing which got the movement going.

So, I agree with Steve that there are differences. Nevertheless, I would want to say, for both creationism and intelligent design theory, there's a deeply, deeply, antiscientific, anti naturalistic attitude which ultimately goes back to the bible being read more literally than traditional Christians would read it.

STEVE: Let me respond to that...

WATTENBERG: Steve, give me your word on your background...

STEVE: Yeah yeah My background is actually relevant to what Michael said.

WATTENBERG: ...and then I've got a little riff that I want to do.

STEVE: Sure. Sure. My background is actually relevant to what Michael said. Deeply antiscientific. I started out in the field of geophysics. I was doing digital signal processing.

WATTENBERG: Whatever that means.

STEVE: It's a science. Looking at information in the field of seismology. And I went to a conference on the origin of life. I was in my mid-twenties and it was in the early eighties and there were three scientists there that were arguing the digital information that's encoded in DNA is evidence of a prior intelligence. And they were suggesting that the classical argument from design that goes all the way back to Plato and Aristotle could be resuscitated on the basis of modern scientific discoveries. I was fascinated with that. I spent -- I didn't come out of the Christian sub-culture that Michael was referring to. I spent my college years in existential despair reading Niche and it was a little put-on perhaps, but it was. So encountered this idea and it was really intrigued with it. And I ended up going back to graduate school in England in the same field as Michael. Philosophy of science. And I--

WATTENBERG: What school?

STEVE: Cambridge University. And wanted --

WATTNEBERG: Good tickets you guys have?

STEVE: We both have the benefit of a proper (unintelligible.)

In any case, I had a question, which was, can this intuition that information in DNA, can that idea that information in DNA points to a prior intelligent cause, can that be made into a rigorous scientific argument? And I started to study the history of scientists who are reasoning about the past. And I went to look at the works of Darwin and Lial the great geologist. And I found that they had a very sensible methodological principle that they developed in order to study the past which was that when you're trying to reconstruct what happened in the past you shouldn't infer causes that are exotic, the

effects of which we've never seen. That instead, you should rely on known causes, causes that are known to produce the effects in question. And so I asked myself a question; what is the known cause of digital information? Lial had a famous phrase. He said we should be looking for "presently acting causes." What's the presently acting cause? Of The origin of information. Well in our experience, whether that's hieroglyphic text or software, or a section of written text, it's always intelligence. And so what occurred to me was that the methodological principal that had guided Darwin and Lial and the great founders of geology and evolution of biology actually underscored a new way of making an argument for design. And I think that it is a very scientific argument and I'm very pro-science. We just have come to a different conclusion about this central issue of whether life is appear as designed or is really designed.

WATTENBERG: Let me see if I can get this right what I think. All people who believe in intelligent design may or may not be creationists. But all people who believe in intelligent design are not creationists. (Freud) believed in an intelligent design, Einstein believed in an intelligent design, and Charles Darwin believed in intelligent design. He had an idea as to how the world works. And uhh...

MICHAEL: I hate to interrupt our host right there. I mean, at one level what you're saying is right. At another level it's just simply not right. I mean, we know that Darwin did believe in God, we know that Darwin believed in God right through the writing of the origin of species in 1859. He believed in a God who was an unmoved mover. Technically (unintelligible.) By the end of his life, Darwin was probably an agnostic. I think...

STEVE: He confessed to being hopelessly muddled.

WATTENBERG: I, in my wisdom, think that the only the seriously intelligent position is agnosticism. And anyone who claims to know how the world works, I don't believe frankly. I mean, are you a...

STEVE: I'm a theist. I believe there is a God. But I agree with you. I think you come to these things through a chain of reasoning and reflection.

Especially when you're starting with the analysis of scientific evidence. Dogmatism befits anyone who's thinking about these big questions. For us the inference to design is an inference. And it's a justified inference because of what we know about the cause and effect structure of the world. Namely that it always takes an intelligence to produce information. And we find the information in the cell therefore we think it's the best explanation of that evidence that intelligence played a role. But given that that's a scientific

conclusion based on an analysis of data, you have to remain open to the evidence changing or different interpretations.

MICHAEL: But Steve, what is this intelligence?

STEVE: There's two aspects of this; you can't tell from the science alone the identity of the designer. I'd be like having a painting that wasn't signed or a section of poetry that didn't have the author's name at the bottom. You can tell from the characteristic signature of intelligence, namely the presence of information, that some mind played a role. But we can't tell from the science, the identity. I for other reasons am a theist. I think that there are -- when you supplement the design argument from biology with design arguments from physics and cosmology and also look at other considerations like the moral sensibilities of humans and our ability to know and understand the world around us, I think there's a good case to be made philosophically for theism. But that's a second order reflection or inference that I would make beyond what I can know scientifically.

MICHAEL: But I don't think you're quite right to say if a painting is unsigned we can't say anything. I mean, 'cause obviously a good art historian can look at the painting and maybe say, it's not signed but I think it's thirteenth century school of whatever.

STEVE: Sure. Sure.

MICHAEL: Or it's not signed but I think this is impressionist. It could be Renoir but I'm inclined to think it's not. Now, you're looking at the world and I take it that you're at least saying things like, I don't think that this was a naturalistic designer, I really don't think that this was a grad student on Andromeda running experiments here on earth to get his PhD.

STEVE: Correct. We're looking at a mind, not a material process. I think when we look at the intricacy of the information processing system itself...

WATTENBERG: Can I just interrupt here for a minute? If you had to say it in a sentence or two, each of you, age has its privileges here, with what do you disagree with Steve about and vice versa? Let's just try to narrow this down, because it's a little confusing.

MICHAEL: I think he's not appealing to scientific ideas. I think he's appealing to religious ideas for all that he's saying that this is not religiously driven, I think that it is. But also, and I trust we'll get into this, I think it's also part of a general social cultural agenda which I would, in fact, link with the creationists.

STEVE: I always like it when Michael puts me on the couch like that. This has become a fashionable way of avoiding our argumentists to impute to us

some agenda or dishonest motive. But you still have to explain the origin of the digital code that's in DNA. You still have to explain the origins of these machines. And for us the key scientific issue is the issue that Darwin himself posed which is, is the appearance of design in biology real, or merely apparent? Is designing biology an illusion produced by a natural mechanism, namely natural selection that can mimic the powers of a designing intelligence, or is that appearance of design, which all biologists recognize the product of actually intelligence? A mind, not a material process? I think that's the essence of the scientific and philosophical debate. We all have agendas. You can't refute a guy by pointing out that he has a point of view, or by pointing out that an idea may have some implications that you don't favor. It may well be that if you accept that there is a design and a designer that favors a theistic world view over against a materialistic world view. It may well be that if you hold to Darwinian view, that that favors a more materialistic philosophical picture. But those are implications of more primary scientific questions. So I don't say, as Michael said before, this debate has nothing to do with religion or philosophy. Rather I would say that the important questions -- the key is the distinction between the evidence and the implications.

WATTENBERG: Are you a practicing Christian?

STEVE: I am a practicing Christian.

WATTERBERG: You are not?

MICHAEL: I'm not. I was brought up as a Quaker but like you, I'm an agnostic. As you said, I'm not an atheist.

WATTENBERG: I'm an agnostic with a powerful believer in some prime mover which is in ethical. That's where I come out of...

MICHAEL: Well, I'm not that much of an -- I'm not that close.

WATTERBERG: I mean, who created God, where does the universe end? I mean, what's it all about?

STEVE: Ben, if I could just real briefly -- I think the key to this is making a distinction between the evidence and the implications. Intelligent design as a theory is based on certain key evidences. Look at our papers. All of our arguments are based on the evidence. The implications of the theory -- that's another discussion. And there may well be larger implications that are favorable to some kind of belief, whether it be Christian, Jewish, or some kind of theistic belief. But that's an implication and not the basis of the theory. You can't critique our theory simply by saying, "well, it has an implication that I don't like," or find unsavory. Any more than I could

critique Michael or Richard Dawkins or the Darwinists by saying, well, Richard Dawkins has said that Darwinism makes it possible to be an intellectually fulfilled atheist. It would be improper for me to say well, Darwinism is wrong because Dawkins thinks it supports atheism, and atheism is bad. That's

WATTENBERG: Dawkins says he believes in atheists.

STEVE: He does. And he thinks Darwinism supports it.

WATTENBERG: How he knows this, I don't know.

MICHAEL: Can I just interrupt just for one moment? First of all, I don't think your motives are dishonest. I think you know me well enough now to know that I don't think that in dealing with you people at the Discovery Institute or indeed with the people at the Institute for Creation Research that I'm dealing with a bunch of crooks. Because I don't think you are. I think you're profoundly mistaken, I think you are often more religious than you let on, I think that you do try strategies to get around the separation of church and state, I think all of those things. But I think that you are deeply sincerely, if misguided evangelical Christians. So that is very much where I come from, and that's where I feel at least we can meet there. Now let's get back to the science.

STEVE: You're damning us with some extravagant...

MICHAEL: No! No! If I was saying you're nutcases or loonies, then I might be! But I'm not!

STEVE: Correct. But we're not doing a lot of things. We're not trying to get around the separation of church and state. We're a bunch of people who are fascinated with the scientific evidence. And the big questions that derive from them. They go back to the Greeks, Plato, and Aristotle. They were taken up in the middle ages by Aquinas and Pnemonities (ph?) They were with us in Darwin's time. They're with us today. Is the universe the produce of design and purpose, or is it the result of an undirected process, purposeless universe? That's a big important question that science is now addressing. It's a fascinating thing. And I just fail to see any scandal in that.

WATTENBERG: The title of Darwin's seminal work as I understand it as I recall it is, A Theory - and I know theory is a funny word- A Theory of the Descent of Man and Human Evolution, something like that. Is that right?

MICHAEL: It's a selection in relation to sex.

WATTENBERG: So, he was honest enough to say it's a theory. And we have this great debate in the United States, I doubt that it exists in Canada, about what we should teach. And the alternative, intelligent design people say,

let's teach what people are arguing about. People all over this country and the world are saying this. There's this, there's that, there's the other thing. Value free. Here's what Steve believes, here's what Michael believes, here's what Ben believes. As a civil libertarian, which I know you are one, what objection -- if it's taught neutrally, you know...

MICHAEL: I have absolutely no objection in this. In fact, I would welcome the teaching of intelligent design in courses on comparative religion. I think one of the big problems we've got in American high schools is that kids are not taught about religion. And I think in this day and age, when Islam is such a worry, threat, I think it's criminal that young people are not being taught about what it's like. So on that level, I would want Christianity taught, all kinds, including intelligent design. I don't think it's appropriate to teach it in biology classes. Because some people believe something sincerely, does not mean that it should be brought into class, nor is it a civil liberties issue. I don't want, let us say, I don't want Christian Science taught in medical schools. I want the teachers to know about Christian Science, or rather the students to know about it, but I don't want them to be taught it as something which is on the exam just like modern medicine. And it's the same with intelligent design.

WATTENBERG: That sounds reasonable.

STEVE: Well, Michael and I disagree, this is mainly a definitional issue in the end. He doesn't want to categorize the design hypothesis as a scientific hypothesis. And yet, part of Darwinism is the attempt to explain the appearance of design. Darwinism says the appearance of design is illusory; intelligent design says it's real. You have two competing hypotheses trying to explain the same piece of evidence. How is one scientific and the other religious? They're competing explanations for the same thing. The reason it's appropriate to discuss intelligent design is that it is an explanation for biology. Now, Ben, I know you have a policy audience for Think Tank. I might just take a minute, just explain what our thinking on this is.

WATTENBERG: We have a very unique audience. Go ahead.

STEVE: The Discovery Institute, which is the institutional home of many of the scholars who are advancing the theory, is not actually advocating that we require students to learn about the theory of intelligent design. Our position right now is that it would be perfectly legitimate and appropriate for students simply to learn Darwinian theory, and to learn the counter arguments against it. The critiques.

WATTENBERG: But, Michael's point seems reasonable that you teach that in

comparative philosophy, in comparative religion, not necessarily biology.

STEVE: Except that these arguments are in biological journals. There's a tremendous amount of literature. Darwin had -- you were talking about the word theory -- Darwin had a more important word that he used in the origin. Talked about the origin of species being one long argument. And when I was in my doctoral studies in Britain, I had a tutor...

WATTENBERG: Oxford?

STEVE: Cambridge. He said, "beware the sound of one hand clapping." And in biology like in every other field, any time you have an argument, there is a counter argument. And the discovery that I made was...

WATTENBERG: And that's how we advance.

STEVE: That's how science advances. And Michael has the idea that science is this pristine realm of endeavor that does not involve argumentation or differences of interpretation. And therefore, when you have a fundamental difference, then it must be philosophy or religion that should be sequestered off to the side. But scientists, like everyone else, argue about how to interpret things. And if we deprive students of those arguments, we're depriving them of a scientific education.

WATTENBERG: Does it really matter in which class it's taught? Whether it's taught in comparative religion, or whether it's taught in biology? Just so long as students are exposed to the fact that there is an argument?

STEVE: In the end, no. Because, more fundamentally, I don't think it matters what you call it. I think we're hung up on these science, philosophy, religion. These are categories of human thought. What we're interested in is how do you explain the complexity that we see in life? And we think that design is the best explanation. If Michael wants to classify that as a philosophy hypothesis, then I would say that our philosophical hypothesis provides a better explanation than his currently popular Darwinian scientific hypothesis. What you call the inference or the hypothesis is not as important as whether or not it's true.

WATTENBERG: Ok, on that note, we'll have to end it there for now. Stephen Meyer, Michael Ruse, thanks for joining us on Think Tank.

Intelligent Design vs. Evolution, Part Two

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WATTENBERG: Hello, I'm Ben Wattenberg... In recent years Charles Darwin's explanation of evolution through natural selection has been challenged by an alternative theory called Intelligent Design. A growing number of science teachers and school boards are struggling with how to present students with the facts. Even acknowledging the existence of an argument has become controversial. How should students learn the history of life on this planet? Are Christianity and other major religions incompatible with Darwinian evolution? Is there any evidence to support the new theory of intelligent design? Can ID and Darwin find common ground?

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The Topic Before the House: Intelligent Design vs. Evolution, Survival of the Fittest? Part Two This Week on Think Tank...

WATTENBERG: Stephen Meyer Michael Ruse,. Welcome back to Think Tank. Let's continue what I found to be a fascinating discussion about intelligent design and evolution.

Steve, you wrote a very controversial paper for the Smithsonian Institute here in Washington, a biology journal which caused the editor to get into some hot water. What was so controversial about it and what happened?

STEVE: Well, the paper was one of the first peer reviewed papers to make it into a mainstream biology journal that was explicitly arguing for intelligent design as an explanation for biological phenomena. I made an argument which was about something called, an event in history called the Cambrian Explosion, where some forty separate body architectures, body plans come online very suddenly in the fossil record. Many people have recognized that there's a problem for Darwinian evolution because it doesn't match Darwin's tree. But I raised another problem which was that if you -- to build all those animals, you need a lot of lines of genetic code. Just like a computer. You want to give a computer...

WATTENBERG: A genome.

STEVE: A genome. Exactly.

WATTENBERG: Is that actually what it looks like, or is that sort of a model of

it?

STEVE: It's our best understanding based on the double helix structure.

WATTENBERG: Double Helix. Watson and Crick.

STEVE: Watson and Crick, 1953. You got it. So you know, students under twenty five, you said you've got all these bright kids here working for you, but you ask them if you want to give your computer a new function what do you have to give it? And they know right away, code. Lines of code. Well turns out, the same thing in life. You want to build a new miniature machine, if you want to build a new type of animal all together, then a whole lot of new information is required to build those structures. So these events in the history of life, we have this sudden appearance of a great amount of new biological form and structure. New types of animals require a whole lot of new information. Some of these things happen so quickly that there's not enough time for that -- for even random mutations to generate the amount of text let alone get it specifically arranged so that you can build these things. And the Cambrian Explosion is therefore a great mystery to Darwinian evolution. So I pointed that out and went further and argued that this infusion of information is actually evidence of design because what we know from our uniform and repeated experience which is the basis of all scientific reasoning about the past, is that it always takes an intelligent agent to produce new informations. So the new information that arose suddenly in the Cambrian, I argued was evidence of intelligent design. And then as you say, the editor -- the paper was published and a great furor ensued. The editor was denied access to his office, his keys, his samples. He was brought in and interrogated. He had colleagues who were interrogated or asked if he was secretly working for the Bush campaign. Or if he was a Catholic, or an Evangelical.

WATTENBERG: Heaven for fend.

STEVE: The office for special council investigated his case. Found that there was a consorted disinformation campaign that was being waged against him.

WATTENBERG: Aspects in our modern culture, in the university culture in Washington, a political correctness that is maddening. I gotta tell you. Where it just will not allow exploration into certain things. I mean, these are legitimate arguments. Legitimate points of view.

WATTENBERG: It was anti-intellectual freedom.

STEVE: It's anti-intellectual. I mean, this editor is a man with two PhD.s in biology. Has published over forty peer reviewed papers himself. He was, by all measures, a very successful editor of this journal until this took place.

WATTENBERG: Michael, you buy that?

MICHAEL: Well, I don't entirely.

WATTENBERG: You would muzzle a man with two PhDs?

MICHAEL: Of course I admire a man with two PhDs. But you know, I've got a PhD and a couple of honorary degrees and things thrown in and I'm not entirely sure that I want anybody to take me seriously simply because somebody says Oh well, Ruse has got a PhD or something like that. I would want to know much more about the actions and about all the details. And I agree with you about political correctness, per se. My God, come to Florida State some time if you want to see that in action and I agree with you. On the other hand, I think that there comes a time, both in science and in other areas where it's appropriate to say, maybe the time has come to close discussion on these sorts of things. We're basically wasting our time now. For instance, if somebody came up to the NSF with a request for a great deal of money, let's say, on UFOs, or something like that, and the committee simply said, no. UFOlogy is just a load of old cobbles. We've been down that path. We're just not going to put anymore money into something like that.

STEVE: Michael is a very fair-minded guy and I know he doesn't support academic freedom abridgements. So, that's not the issue. But what he was saying was that sometimes it's appropriate to close a discussion down when it's been well aired out in academic journals. The point about publishing an article, making it a technical case for intelligent design is that this is a new argument. This is a new argument based on new discoveries that have taken place in the last 30 years in molecular biology, nano technology, information technology we're discovering. And this editor I think specifically wanted to allow that to have some air time and air space to be published properly. It's very interesting how the Smithsonian responded. They didn't try to critique it or say that this argument had been refuted.

WATTENBERG: They said it's off the table.

STEVE: They issued what amounted to a papal bull. A policy statement saying that the idea of intelligent design is inherently unscientific. They cited a statement by the triple A S (AAAS) to that effect. And they didn't bring forward an evidential case against it. And by the way, the problem that I was addressing, the problem of the Cambrian Explosion and the origin of the information you need to build the animals is widely recognized in paleobiology. There are plenty of papers and books. James Valentine's recent book on the origin of the phyla. Leading expert on the Cambrian thing that all evolutionary attempts to explain the origin of the Cambrian life have

failed. So there's nothing -- this isn't an issue that's been settled. This is an issue that's wide open.

MICHAEL: It's not a question of new hypotheses, this is the point. It's a question of whether or not it's going to be scientific or not. If you come along with say, another explanation of the Cambrian Explosion, I mean, for instance...

WATTENBERG: That allegedly occurred when?

MICHAEL: It occurred about 542 million years ago, I think. Well, if you want the exact answer...

WATTENBERG: Not 541, not 543...

MICHAEL: So if you want to offer a new explanation of the Cambrian Explosion for instance...

WATTENBERG: This is many new species coming on line at the same time.

MICHAEL: Yeah, but it was due to the evolution of the eye, for instance, is one hypothesis I read a book about a couple of years ago. Then I think it's perfectly legitimate to put that forward, and for him, I hope he would have it refereed by people who know about the topic. But when push comes to shove, it's the editor's job to say, I'm going to go with this or not. And I would agree with you. But the point is, you're not doing that. You're pushing a position which says, science has failed, now let's appeal to an intelligent designer who just so happens to be the god of the gospels. And that's why this chap got into trouble. Now, I'm not going to go into the ins and outs of whether or not he was then treated appropriately. And if you can give me a case to say that he was badly treated, or whatever, I'm prepared to listen to that and if the case is made, I'm prepared to go along with that. But the fact that he got into trouble seems to be perfectly legitimate.

WATTENBERG: Is that the position of the civil libertarian? That there are things we cannot question?

MICHAEL: No. It's not a question of things you cannot question. It's things which are appropriate to do at certain times. If he'd said, "look, I'm really think we've got to the point where science can't do this anymore, I think these people have made a case," I think at the very least he should've spoken to his editorial board or others, and if they'd said, "we're right with you," then come hell or high water, publish and be damned. I ran a little journal, I published Phillip Johnson. I wasn't sure about doing it. So what did I do? I went to my editorial board, including of all people, Richard Dawkins and they said, "we think it should be done." Of course, I'm a philosophy journal. Not a science journal. So it's different. So I think there are

circumstances. Yes I really do. I don't want to go to a doctor and him, in the interest of his freedom or whatever it is, he's taken up with some esoteric new medicine and he thinks he'll just wing it. I think, he shouldn't do this.

STEVE: Can I respond to Michael on this? Because I think he's partly misrepresenting my position. We're not saying that science has failed to find an answer to this question. We're saying that Darwinian evolution, a particular theory within the corpus of scientific thinking has failed to find an explanation. And we're putting forward an alternative explanation which we think is scientific and which Michael, because of a definition of science that he holds, does not think is scientific. So part of the debate is actually about the definition of science.

STEVE: So the intelligent designer is part of science?

MICHAEL: Intelligence as a cause based on our understanding of the uniform and repeated experience that we have, is part of science. Yes.

MICHAEL: So you're saying that God, therefore, is part of science.

STEVE: No. You just put words into my mouth. I was saying that the scientists in many fields -- you and I were talking about plagiarism before we came on the air -- it's possible now with programs to detect papers that students turn in that have been plagiarized. Well that's a form of inferring to design. Kind of sneaky malevolent design, but when you see a string of characters that match up from two different strings, highly improbable arrangement, that match, we call that a specification and you have improbability in specification, we design people say that indicates intelligence. Well, that's a form of reasoning that is not only -- let me finish...

WATTENBERG: Let's go seriatim as we say, one, two, three. I am a player also.

STEVE: Scientists make inferences to design when they're doing cryptography, when they're doing archaeology, ancient hieroglyphic, infer to an intelligence, that's part of scientific reasoning. So why can't...

WATTENBERG: The Rosetta Stone.

STEVE: Exactly. The Rosetta Stone is a perfect example. We'd be (loathed) to say that that was the result of wind and erosion because we're applying Michael Ruse's role of methodological materialism. We really want to be -- and this is our point -- if we can infer design in those other fields, why aren't we at least open to it in biology? When we have methods of detecting design. Where things like information rich systems are indicators of prior intelligence. You find out in the cell, design is almost a common sensical

thing to consider. And so why prescribe it, why eliminate it? I made a case for it based on standard canons of historical scientific reasoning.

MICHAEL: So I agree with Steve entirely that at times what, not only can we infer design, but that it's appropriate to do so. I mean, the Rosetta Stone I looked at this summer with one of my kids in the British museum, it's a wonderful thing to explain to my son why it is that people think that this is writing rather than just random marks. So I agree with you. But of course the point is, you want to take it one step further. You don't want to say therefore, this suggests to me a grad student on Andromeda is doing this. You want to say, no, it's obviously not a human intelligence which created the Cambrian Explosion, it's another kind of intelligence, namely an unnatural intelligence. And at this point, I think you're taking it out of science. So this, I think, is the radical break you're making.

STEVE: Actually, we don't say that. All we say, as a matter of science using these established methods of design detection is that an intelligence of some kind was the causal factor.

MICHAEL: Aww come on, Steve, you can't leave it like that!

STEVE: Well you just made the demarcation between science and philosophy.

WATTENBERG: (Unintelligible) Quite Cordial... In so far as we can...

MICHAEL: I won't call you a phony, but you're starting to sound a little bit like one when you simply say to me, "we're going to take it up to intelligent design, but hoo hoo folks, we're not going to say any further about this, so don't pin God on us." Of course I'm going to pin God on you because you don't think it was Ben or me, old as we are back at the beginning of the Cambrian (cranking) it.

WATTENBERG: I'm older than you are.

MICHAEL: I know, you're older than I am. You're pre-Cambrian. Okay. But we don't think it was Ben there cranking it up and doing it. You're pushing something completely different. Something very radical.

STEVE: Actually, this is, I think, becoming a kind of standard tactic in the argument, is to accuse us of dishonesty or hidden agenda as a way of avoiding the argument. I've been very clear. As a matter of the science, we think that you can tell that there is an intelligence. I've written an article, philosophical article in which I look at other lines of evidence from physics and cosmology. In which I make a case for theism. But I think when you look at the big bang, when you look at the fine tuning of the universe as a whole, you're looking at design that could not be the product of an

intelligence within the cosmos which is certainly a possibility when you're looking at the evidence of design in biology, but you're looking at evidence of design that effects the whole of the cosmos and therefore seems to point to a transcendent source. And by the way, Michael, just turn the tables a little bit on you and say, do you have an explanation for the origin of life? Or the origin, the information you need to build it? That's a vexing question. Most evolutionary biologists acknowledge that there is no materialistic account of the origin of life and the information you need. So it's not like we're making up some question that isn't on the table here. This is -- what do you say about the origin of the first..

MICHAEL: Okay, now we're shifting from the beginning of the Cambrian to the beginning of life. We're going back another three billion years.

STEVE: Well, what's your explanation of the origin of the Cambrian?

MICHAEL: I think people like Jack Sokofsky (ph) has explained the beginning of the Cambrian perfectly adequately by showing that things just started to take off. That there were empty ecological niches and it sort of swung up in a sigmoidal (ph) curve just like that. So to a certain extent, the Cambrian I think, is an artifact of certain ecological factors. I find the Cambrian - I would agree with you. As far as the origin of life is concerned, I would agree with you. I don't think anybody has got a full explanation yet. I'm not agreeing with you, I'm just simply saying what every scientist would say. On the other hand, it's hardly the case that we are as ignorant even when Belerand what's his name, Neri, did that experiment fifty years ago. Now we know a lot more about RNA world and the possibility of RNA being self-generating and self copying and things of this nature. So I don't think the problem is solved. But I don't think we've got to the point where we throw up our hands, say science stopper, intelligent design, don't want to talk about God, but that's the only option.

WATTENBERG: So, I generally believe in Darwinism. Makes a certain degree of sense. But I must say, and I've discussed it with, you know Robert (Wright) the author of Non-Zero, we've had a long discussion, email about it. There are parts of it that just baffle me. There's one case, as I understand in the rain forest in South America, there is a species of insect that when it feels threatened by a predator, ten thousand of them swarm and form into a floral pattern to trick the predator into that they're really a flower and they're not prey. Now how can they communicate that information to each other? These are little bugs!

MICHAEL: What's worrying me about your kind of argumentation, Ben, and I

think I get a lot of this from Steve, is you want to pick on something and say, "There we are. We've got a problem for Darwinism, you know, creeeeekkk!" And what I want to say is, why are you not prepared to say, Darwinism solves a huge amount of problems. Now we've got another problem. It's more reasonable to think that a solution will be forthcoming than not only will we have to throw out Darwinism, but we'll have to throw out the scientific approach and invoke the Christian God.

STEVE: There's a whole lot of information right now about the way in which the development of organisms is controlled by something like an algorithm. And so when we're arguing...

WATTENBERG: Whatever that means.

STEVE: Well, a computer software program. Okay, in biology now we're talking about programmable adaptation. Preprogrammed adaptive response. Darwinism explains very well the adaptation within limits. But the origin of that programming is what we're asking about. Where does that information come from? That algorithm come from? And we're not punting or giving up on science when we ask that. It's not an argument from ignorance as Michael said, "it's an argument from what we know about the cause and effect structure of the world." Whenever you find computer programming, whenever you find information, whenever you find complex functionally integrated machines or circuits and you trace the causal story back to the beginning, you find that an intelligence, a programmer, an engineer, a writer played a role. A mind, not a material processor is responsible. So our argument is based on something we know, not based on giving up on science or ignorance.

WATTENBERG: Michael, you wrote a book called, Can a Darwinian be a Christian? Can evolution and belief co-exist?

MICHAEL: Oh, yes. I think they certainly can. If I were a Christian and I don't pretend to be one...

WATTENBERG: You were born a Christian?

MICHAEL: Yes. I certainly was. I see absolutely no reason why God shouldn't work through unbroken law. In fact, I could see good theological reasons for this because it always seems to me, the biggest problem with intelligent design theorists is not really the science, but the theology. I mean, if God has to be invoked to do the very complex, why on earth didn't God clean up the simple but awful? Some of those genetic diseases that people have which involve just one very small molecule being moved and yet it leads to a lifetime of pain? Why didn't God get involved in that?

WATTENBERG: On the other hand you can say, look at all the great things he, she, or it has done. I mean, how 'bout you? You would believe that God and Darwinism can coexist.

STEVE: Well, I believe in design and I believe in some of the meanings of evolution. That's the key to it. I think you can be a theistic evolutionist. You can believe that God is guiding the process of change. But I don't think you can be a theistic Darwinian because Darwinism asserts that the mechanism that produces all the change, all the appearance of design and history of life is purely unguided and undirected. You have to ask yourself a question. How can God guide an undirected process? It's not so much a theological problem, it's just a basic logical problem. So I think you can be a theistic evolutionist but not a theistic Darwinist and be logically consistent.

WATTENBERG: As you see it what is the future of this debate?

MICHAEL: I think it's going to go on for a long while. Because I don't think this is just a scientific debate, I don't even think it's just a religious debate. I think it's a political debate as much as anything. And now of course, President Bush has got two extremely conservative new members to the Supreme Court with the possibility of at least one or two more before his time is finished.

WATTENBERG: And their names are?

MICHAEL: Well, there was Alito, and the other one is the head of the Supreme Court, Roberts.

WATTENBERG: Well, there are people who would argue about that, but that's fair. Scalia was a colleague of mine for a couple years; you agree with him or disagree with him, this is a fertile mind.

MICHAEL: I don't think anybody wants to deny that. It's just like, I respect Steve's mind. I wouldn't be here if I didn't.

WATTENBERG: And I think he feels...

MICHAEL: Anyway, before we go out on a flood of niceness, I think that this is much more a political debate now than a purely scientific debate. And I think until we see, or unless we see some major changes in American culture and a lot less division than we've got at the moment, I think we're going to be living with it, certainly past my lifetime.

WATTENBERG: How do you see? What is the future of this debate?

STEVE: Well, I don't think the courts are going to settle this. Nor should they. Nor can they. This is a debate that has larger philosophical implications, no question. But the debate, I think, is going to be settled by science, and especially by the next generation of scientists coming up. The

younger scientists. Michael wants to make a lot out of this...

WATTENBERG: You think it's going to be settled?

STEVE: Well, I think the contours are going to be shaped by the next generation. Michael wants to make a lot of this as a red state, blue state culture war issue, but I'm in the bluest county in the country, King County, Seattle. And we have in that county, Microsoft engineers, Boeing engineers and high tech people with Nintendo, and I'm talking to these people all the time on the soccer sidelines, and when I'm finding is there's a tremendous interest in the scientific aspects that are driving this. A Microsoft engineer who's now working with us at Discover Institute, he's working with our molecular biologists, he came into my office recently. He's retired from Microsoft. That means he's 35.

WATTENBERG: Probably worth ten million dollars, or a hundred million dollars!

STEVE: He brings in a book to me called Design Patterns, which is a standard text for teaching software engineers how to design information processing systems. And he says, "As I've been learning more about molecular biology, I'm seeing these same design logic, these same strategies in the cell, and it gives me an eerie feeling that someone figured this out before we did." He's coming to the idea of intelligent design from his background.

MICHAEL: Pretty clever chap.

WATTENBERG: Michael Ruse, Steve Meyer, we thank you for a very informative if sometime rambunctious conversation. But thank you for joining us on Think Tank.