

Transcript of Nightline Interview with Dr. Stephen Meyer of Discovery Institute

[released 8/11/05]

NOTE: Following is a rush transcript of the Nightline interview with Dr. Stephen Meyer of Discovery Institute on August 8, 2005. The interview took place in Discovery Institute's office in Seattle, Washington. The transcript was prepared from an audio tape of the interview and has not been corrected by Dr. Meyer or the other participants.

SM: Stephen Meyer, Discovery Institute
C: Chris Bury, Nightline
E: Elissa Rubin, Nightline
M: Mike Gudgell, Nightline

SM: Stephen Meyer, and I am the director of the Center for Science and Culture here at the Discovery Institute.

M: Thanks for joining us for this today. What are the goals of the Center for Science and Culture here at the Discovery Institute?

SM: Well, we're trying to develop a new theory of biological origins, called the theory of intelligent design, and we are supporting the research, not only of people who are formally affiliated with us as fellows and research scientists, but also scientists at Universities around the world who are working on the subject, and doing research, either to provide evidence for that theory, or to use the theory to provide a guide for further discovery in a number of areas of biology.

M: So, about four years ago or more, the Center began to publicly challenge the theory of evolution – I think that's a correct statement – and that's touched off a religious and political debate. Is that what you intended?

SM: Well, It might be helpful first to clarify what the theory of intelligent design is, because it's not necessarily a challenge to the idea evolution per se. Evolution can mean a number of different things – it can mean change over geologic time, it can mean common ancestry, and the theory of intelligent design is not opposed necessarily to either of those two ideas of evolution, but rather to the strictly Darwinian idea that life arose through a purely undirected natural process, and that the appearance of design that scientists all recognize in living organisms is merely illusory – that's the Darwinian perspective. Our perspective is the opposite of that, that meaning of evolution. We hold that living things have certain features that are best explained by reference to intelligent cause rather than to an undirected process. And so for us, the appearance of design is real and not illusory, and it's that meaning of evolution, that aspect of evolution that we're challenging, not necessarily the idea of change over time, for example.

M: You touched on an idea which was, what part of the debate which has been triggered is helpful to your goals, and what part of the debate has taken things off on a direction you didn't originally intend?

SM: I think the debate has been on whole helpful, because the biggest problem has been that the debate has been suppressed, and it has been suppressed mainly in the scientific community. What we're most concerned about apart from making our case for design is that there are a number of scientists who are experiencing very severe recriminations for breaking with Darwinian orthodoxy. So the president's statement last week which many people took to be a specific policy mandate I think was actually very helpful because it drew attention to the most important issue which is the issue of academic freedom. I don't think the president was advocating a specific policy mandate. He's long been on record saying that education is something that should be controlled at the local level. I think what he was saying is that this is a legitimate debate, it's an important debate, and that scientists on both sides should be very firm that it ought to be okay to discuss this openly. There have been a number of biology professors who have lost their teaching positions, Caroline Crocker at George Mason recently is a noted example, there have been others who have experienced recriminations for questioning aspects of Darwinism. There's a scientist at the Smithsonian now whose only crime was that he allowed a paper that I had written to go through the peer-review process and to publish it, and he's experienced very severe recriminations right there in Washington DC. So we took the president's statement to be very helpful, because it's essentially an affirmation of the principle of open inquiry and academic freedom.

M: Do you feel you have to justify the theory as a scientific theory? Is intelligent design a scientific theory?

SM: Well, we think it is. We think it is based on scientific evidence. What scientists have been finding over the past 30 years is this incredible world of nanotechnology – you have turbines and sliding clamps and miniature motors and actually rotary engines inside the cell. You have complex circuits, and the most important or impressive thing to me is the reams of digital code that you find inscribed along the backbone of the DNA molecule. And for us this is an extremely important discovery, because we know from experience that information always arises from an intelligent source. Bill Gates has said that DNA is like a software program; Richard Dawkins has said that it's like machine code, and we know from experience that programs arise from programmers, and we know from experience that information always arises from an intelligence. So when we find information in the living cell, it is a very natural inference to think that an intelligence played a role in the origin of that information. So we justify the theory of intelligent design by reference to the evidence that has been discovered in the cell of this immense complexity, of the discovery of this nanotechnology, and by what we know about what it takes to build that kind of sophisticated information and nanotechnology, namely intelligence.

M: So as this debate gets more politically and religiously, charged in a religious way – did you see the Seattle Times this week?

SM: My father in law dropped off some of the–

M: The debate has certainly gone to the general public. And I don't know whether that was your intent or not – it sounds like it was, to get people talking about some of these things. But here's what one person writes: Intelligent design is not a scientific theory because there's no set of facts that would disprove it. No matter what science says tomorrow, a believer in intelligent design could say, "Yes, that's the way God did it." How would you answer that?

SM: Well, I think the debate about biological origins is incorrigibly scientific, and it's incorrigibly philosophical. You can't avoid that. It's been that way since Darwin's time, and really all the way back to the Greeks. So the fact that the general public has become intensely interested in this, that fact that the media has become intensely interest in this, is entirely to be expected, because we all are interested in these big questions as to where we came from, whether or not there is purpose in the universe. And intelligent design certainly speaks to that, but it is based on scientific evidence. I think that the key thing that many folks in the media and many people in the general public miss, and I think this has been a somewhat unhelpful aspect of the debate, is that they have confused the idea of evidence with the idea of implication. The evidence for design is as I said this nanotechnology that we're finding in the cell, this information embedded in DNA, for example, but the implication of the discussion does raise larger philosophical issues – and that's true for Darwinian evolution as much as it is for its now chief competitor, the theory of intelligent design. Richard Dawkins has said that Darwinism has made it possible to be an intellectually fulfilled atheist. Other people, like Ken Miller at Brown University has said that Darwinism fits with his religious faith. You've got to be almost brain dead to not have some idea of how the science fits within the larger worldview questions, and everybody has a take on that, and that's part of the discussion, part of what makes it interesting, but sometimes it also does lead to some confusion.

M: Talk to us about the Wedge strategy: when was it written, and who were the primary authors?

SM: The Wedge was first discussed by Philip Johnson as just an idea that said look, ideas have consequences, and the idea of intelligent design in the larger debate about biological origins has an implication for how people form their worldview. And he first published a book called The Wedge of Truth or something, in 2000.

M: What was the main point of that work, do you think, of the Wedge?

SM: I think the main point was that scientific ideas have larger implications for worldview questions.

M: Should intelligent design be taught in science classrooms in public schools?

SM: We think it should be permitted, the discussion of that should be permitted, we're not asking for it to be required at this point. What we're asking for is for Darwinian evolution to be taught in its full glory, if you will, but also for the current scientific criticisms of the theory to be taught as well, alongside it. And there are very significant criticisms of Darwinian evolution in the scientific literature.

M: Because there is a larger public debate, including religion and politics, do you feel that the bar is a little higher now – that there's this skepticism that's behind the questions about the motivations of some of the scientists, do you think that the bar's a little higher? Do you feel that you'd have to prove the scientific validity of this if there wasn't such a debate?

SM: Well, I think that it's always been a high bar, if you will, for a new theory. And we're challenging an idea that has been deeply entrenched in the scientific culture for 150 years. So we welcome that. And we're engaged in a very active publishing program, we've had a number of very significant peer-reviewed books published at mainstream university presses, and we are now also breaking through into the scientific journals. A very important article was published this last spring by a German geneticist at the Mach Institute articulating a research program for intelligent design that explored the implications of the theory in many sub-disciplines of biology. So we think there's a rich intellectual program here, and of course people are going to want to see that before they're going to sign on, but we're seeing more and more scientists joining our research community and movement of scientists and we think that's the way things should proceed.

M: The whole theory of intelligent design begs the question of who and what is behind that design. How do you answer that question?

SM: The question of the identity of the designer is what I would call a second order philosophical question. From the evidence of the information that's embedded in DNA, from the evidence from the nanotechnology in the cell, we think you can infer that an intelligence played a role. In fact, there are sophisticated statistical methods of design detection that allow scientists to distinguish the effects of an intelligent cause from an undirected natural process. When you apply those statistical measures and criteria to the analysis of the cell, they indicate that the cell was designed by an intelligence. Now, the second question then you want to ask is, "Who was the designer?" The media commonly says, in fact recently it was said that we're so clever that we don't say the designer is God. Well, the reason we're not saying the identity of the designer is not because we're trying to be clever or get around Supreme Court rulings, or anything of the sort. We're just trying to be careful about what the scientific evidence does and does not support. It supports the conclusion that there was an intelligence; the second order question of the identity of the intelligence is something that is for philosophical deliberation.

M: Some of what I've seen, Creationism and intelligent design are almost used in the public debate on an equal basis. Is that accurate? Because from what you are telling me, it may or may not support the ideas of Creationists'?

SM: To say that Creationism and intelligent design are the same thing is to really confuse things. Creationism is an attempt to explain the days of Genesis and the Bible, and to reconcile the biblical account with the geological record. Its starting point is a sacred text. The theory of intelligent design is an attempt to explain something very different, which is the complexity of living systems, and its starting point is the scientific evidence. So intelligent design is an inference from biological evidence; creation science is a deduction from religious authority, and the two are very different.

C: What I was trying to get at was the confusion of the public debate, you know, and that was...

SM: The Creationism thing?

C: Yeah...

M: What part of the contemporary public debate has been unhelpful?

SM: Well, I think there have been two things about the way the debate has been proceeding. One is the confusion of our theory with the idea of Creationism. The theory of intelligent design is an attempt to explain the observed biological complexity of living organisms. Creationism is an attempt to understand the days of Genesis as they are described in the Bible, and to reconcile the Genesis account with the geologic record. We're trying to explain two different things, they're two different theories. The starting point for Creationist work is the Biblical text. The starting point for us is biological data. So the theory of intelligent design is based on inference from biological evidence, the Creationism or Creation Science idea is a deduction from religious authority. So the two are different in content and in method, and I think that's been widely confused in the public discussion of this. The other thing I think that has been confusing for many people is the distinction between evidence and implications. The argument for design is based on scientific evidence, it's based on the presence of rotary engines, molecular machines, nanotechnology in the cell, it's based on the presence of encoded information in the DNA and what we know about what it takes to produce information, namely intelligence. It is also true that once you have inferred that intelligence may have played a role in the origin of life, then it raises a larger question as to the identity of the designer. And that larger philosophical question has led many people to say that the theory of intelligent design is based on religion. As one early advocate of the theory of intelligent design, an agnostic biologist from Australia Michael Denton, said: the inference to design may have religious implications, but it is not based on religious premises, it's based on scientific evidence.

M: So, as this inquiry goes further, it may not support Creationism at all?

SM: It may not support the particular interpretation that people are giving of the days of Genesis or whatever. It's really two separable questions. We're trying to explain the origin of life, the origin of the observed complexity. The Creationists are concerned with questions of essentially biblical interpretation.

Chris?

C: Yeah, you've said that you have an inference of intelligent design. It's a long way from a logical inference to a scientific theory that passes muster among the scientific community.

SM: Well, Chris, all scientific theories are based on inferences from evidence. If we could see everything directly, we wouldn't need to theorize. And Darwin's theory is in fact an inference from a number of different classes of evidence. And Darwin justified the theory not because he could make observable predictions in the laboratory – after all he was trying to reconstruct the distant past – instead he justified it because it provided a better explanation of the evidenced than the main competitor hypothesis, and that's precisely how the theory of intelligent design is formed, framed, and justified. We argue that our theory provides a better explanation of some of the critical pieces of evidence of biology, namely the irreducibly complex molecular machines and circuits that we seen in cells and the presence of this informational software that drives everything in the cell as it's embedded in the DNA molecule.

C: To say that because something is complex then an alternative explanation exists, which you call intelligent design, isn't of itself any proof of anything.

SM: Well, what you're getting at is that our argument is an argument from ignorance, but it's not an argument from ignorance, it's based on the evidence that has been discovered of the complexity in the cell, the information-bearing properties in particular, but it's also based on what we know about it takes to build informational systems. That in our experience, our repeated and uniform experience, intelligence is always involved in the production of information. So when we find information in the living system, the most natural inference to draw is that there was an intelligent source. Now that form of reasoning happens to be precisely the form of reasoning that is always used in the historical sciences, where our present knowledge of the cause and effect structure of the world guides our judgment as to what is the most likely explanation of what happened in the past.

C: So why does almost the entire biological community consider this stuff junk science.

SM: Well, I don't concede the premise. I think there's some very outspoken people who have used a lot of ridicule and invective to try to stigmatize the theory, but there are a growing number of scientists who are very intrigued by this approach to science and biology and a lot of constructive scientific work is being done on the basis of it.

C: I'm going back to the Wedge idea, back to the governing goals, the second governing goals listed in the Wedge document: "Replace materialistic explanations with a theistic (?) understanding that nature and human beings are created by God." That seems pretty straightforward.

SM: You missed the critical idea which was that the Wedge... Just a second...

[Pause]

C: I'm just quoting from the governing goals. Let me quote it exactly.

SM: Yeah, go ahead.

C: "Replace materialistic explanations with a theistic understanding that nature and human beings are created by God." What's more straightforward than that?

SM: Well, what's wrong with that? Again, the question is, are we talking about evidence, or implication? We think that the evidence is very strong for intelligent design, and that it has implications that are friendly to a theistic worldview.

C: Well, wait a minute. You're saying on the one hand that you don't have the evidence to confirm who the intelligent designer is, but one of your governing goals is to advance the understanding that nature and human beings are created by God.

SM: The statement in the Wedge says to replace it with a theory which is consonant with a theistic worldview. That doesn't mean that you can prove theism from the evidence, it means that it is consonant or consistent with it. And one of our main concerns at the Center for Science and Culture has been to challenge the materialistic worldview that has been erected atop the science of the 19th century, which we now think is outdated and won't stand the challenge of the information age – especially the information technology that's being discovered in biology.

C: In terms of your marketing this notion, going back and reading the document, it seems clear that one of the central tenets of marketing this document is to gain support for the idea that human beings are created by God.

SM: I think some of the people who hold to the theory of intelligent design think that God is the designer. But as I mentioned, that is not a refutation of the argument. The argument is based on scientific evidence, and the evidence is very clear from the cell that you have very sophisticated nanotechnology and information technology and that has to be explained. And we think intelligence is the best explanation for that.

C: When you say intelligent designer, if you're saying you don't mean God, then could you mean the devil, or space aliens, or some supernatural force beneath the sea?

SM: There have been some scientists who have posited other identities for the designer. Sir Fred Hoyle, one of the first advocates of the idea of intelligent design, thought that it might be an intelligence from some other planet. I don't hold to that view, but it's certainly a logical possibility, and one of the reasons that we say that the question of the identity of the designer is a second order philosophical question that invites further deliberation once you have become convinced from the scientific evidence that you are

looking at evidence of intelligence in the cell and in the form of the information that you find there.

C: You call it a second order philosophical question. That kind of sluffs off the main event, doesn't it? I mean, if there is a design is not the secondary question....

SM: The two questions are separable...

C:...but who is the designer?

SM: People have different answers to the question of who the designer is. The key question for us is how you interpret the observed information that is present in the cell. And we think intelligence provides the best explanation for that. After you have inferred that, then there is a second question that needs to be deliberated upon, and that is who is the designer?

C: And you are saying the designer could be something other than God.

SM: That is a logical possibility – the designer could be something other than God. But there is also the possibility that the designer could be God.

E: You've drawn no conclusions on who you think the designer is?

SM: I think the designer is God, but, look, it's not like we are trying to make a scandal of where the evidence might lead. We think that the evidence leads first to intelligence, and then from there, there is a second question, which is the identity of the designer, and there are some people who think it's God, and there are some people, like Fred Hoyle, who think that maybe it is some sort of imminent intelligence within the universe. Francis Crick speculated that some other intelligence may have been involved. But we are insisting that from the scientific evidence, from the presence of digital code in the cell, you can tell that an intelligence played a role in the origin of life.

C: We talked to a fellow named Ronald Numbers (?) at the University of Wisconsin, and his argument is that what the Discovery Institute is really after is to bring the supernatural back into science itself, so that the authority of science in the classroom stands behind the claim that evidence of an intelligent designer has been discovered through the scientific process.

SM: I think that – What was Numbers's claim again?

C: Basically what he is saying is that what you are trying to do is bring the supernatural back into science so that you can essentially make the claim that an intelligent designer, a.k.a. God, has been discovered through the scientific method.

SM: We are trying to open science to the best explanation, and for 150 years since Darwin, science has been closed to the idea that intelligent causes could play a role in the

origin of life or the origin of the universe, and we are favoring instead an open philosophy of science that allows scientists to follow the evidence wherever it leads, even if it leads to an unpalatable conclusion. When the big bang was discovered, there were a lot of scientists who didn't like the theory because they thought it opened the door to a theological conclusion – namely that there was some cause beyond the universe that had brought the universe as a whole into existence. That ultimately didn't stop scientists from following the evidence where it leads, and the big bang is now accepted despite what many materialist scientists think is a somewhat unpleasant and unwelcome philosophical implication of the theory. We're saying the same thing about the theory of intelligent design – that science should be open to following the evidence wherever it leads. We think the evidence points strongly to an intelligent cause for the origin of the information needed to build life, and therefore we have to live with that. After we have concluded that, then we are all free to think and to deliberate about the nature and identity of that designing intelligence.

C: Some scientists suggest that the whole idea that there are two sides to this debate is hogwash – that by stirring up a controversy, the Discovery Institute is making it appear that there is some kind of a controversy in science, where a major one does not really exist – That the overwhelming majority of the scientific community does not believe in intelligent design, because you simply haven't proven it in the established peer-reviewed process.

SM: Well, the way you frame the question establishes that there is a controversy. Yes, it may be true that a majority of scientists don't like the theory of intelligent design, but there is a growing minority of scientists who are advocating it and developing it, and that is nothing if not the definition of a controversy. Last fall at the Cambridge University Press, a book was published called *Debating Design*. That included among other luminaries in this debate, Ken Miller on one side, Michael Behe on the other, two scientists debating two different takes on the origins of the molecular machines that we find in cells. That's a scientific debate, and to say that there are some scientists who think that there is no debate, because all the scientists who agree with them agree with them is actually not an argument that there isn't a debate. It just means that all the scientists that agree on one side are not disagreeing with each other.

C: What about the peer-reviewed process? There is a difference between having a couple of peer-reviewed articles with establishing enough evidence that a community of peers agrees that this is a valid theory – and you haven't reached that point yet.

SM: Well, there have been a number of peer-reviewed scientific books that have been published since the mid-90's: the *Design Inference* by William Dembski was peer-reviewed and published at Cambridge University Press, Michael Behe's book, *Darwin's Black Box* was peer-reviewed by 4 biochemists, and recently there have been a number of scientific articles that are breaking through the peer-review process. One was published last fall in the *Smithsonian's* journal *The Proceedings of the Biological Society of Washington*. We think it is very instructive as to what happened to the editor after he allowed the paper to go through the peer-review process. There were very serious

recriminations taken against him, and I think that this illustrates that not only is there a scientific case for Intelligent Design – the paper did make it through the peer-review process, but also that there is resistance to allowing the idea to be aired and surfaced. We don't think this process is going to be resolved over night. We are developing a research program that we think has legs for the future, and you'll see more and more papers coming out. There have been quite a number just since last fall that have come out supporting the theory of intelligent design, including a recent one in one of the most prestigious and long-standing peer-reviewed biology journals in Europe, *Rivista Biologica*.

C: To what extent is marketing and public relations important to convincing people of your ideas?

SM: Well at the Center for Science and Culture we fund much of the research that is advancing the theory of intelligent design. More and more of it is being taken up now by scientists working in labs with their own funding, but we started by funding a lot of the research, but we're also of course promoting the books and articles that our scientists and research fellows produce.

E: The alarm headline ?– the excuse that you 'teach the controversy' has certainly caught on. Can you tell me how you came to that?

SM: Can you repeat that, Elissa?

E: Sorry. 'Teach the Controversy' has certainly caught on and taken you pretty far, all the way to the president. Can you tell me what the thinking behind going that route was?

SM: We're not asking that the theory of intelligent design be required in any public school. What we're trying to do here at Discovery Institute is to help promote and fund and develop a scientific revolution, a new way of looking at biology. What we are asking for as a matter of public policy is that Darwinian evolution be taught, but also that the criticisms of the theory, that are found in the scientific literature, are also part of biology curriculum and instruction. We in addition to all of that think that discussions of the theory of intelligent design should be permitted without teachers being persecuted. And that we think is just good common sense and an open approach in a pluralistic culture.

E: So when you're saying Teach the Controversy, you're not saying Teach the Controversy over intelligent design, you're saying just teach the criticisms of evolution?

SM: We're saying teach the controversy about Darwinian evolution, and permit discussions of alternative theories as teachers introduce them on a voluntary basis, but we're not asking for a curriculum mandate.

E: Okay, but when you're teaching a controversy, you can't just say, 'hey, there's a controversy out there.'" People have to know what the controversial other theories are. Correct?

SM: Correct, and when we got to [word unclear] in Ohio, and advocated that they adopt the Teach the Controversy approach, we also provided the state board of education with an annotated bibliography of 45 peer-reviewed scientific articles making significant criticisms of key aspects of Darwinian evolution, contemporary evolutionary theory.

[Change Film Tape]

SM: Elissa, you asked about what is the controversy and how will people know about it. When we got [word unclear] before the state board of education in Ohio, we provided an annotated bibliography of 45 peer-reviewed scientific articles that raised key criticisms of Darwinian evolution, contemporary evolutionary theory, in the scientific literature. And later, after the state board of education adopted the critical analysis, essentially the Teach the Controversy, approach, they produced, with a number of biology professors from the Ohio State system, a model curriculum, which is on the Ohio state board of education website today, and that's, I think, a perfect illustration of how to teach the controversy.

E: Okay, so that's good. My question after that is, what was the first time that you all were able to have someone testify in front of the school board in order to change some of the science standards? Was it Kansas in 99? Was it Ohio later? When was it?

SM: We opposed the 1999 Kansas approach, which was essentially to subtract from the curriculum by giving an incentive for teachers not to teach all of macro-evolutionary theory. We instead have always advocated that you should add to the curriculum. That you should teach the current Darwinian evolution in its full scope, but also teach the scientific criticisms of the theory. And in 2002 we were invited to the Ohio state board of education, who was conducting a hearing, and there was kind of a hearing-slash-debate with Jonathan Wells and me opposite Ken Miller and Larry Krauss, and we advocated there the idea that students should learn Darwinian evolution, but they should also learn the criticisms of the theory as they appear in the scientific literature. And we provided to the board an annotated bibliography of the most telling criticisms that have appeared in the scientific literature, and that are in the current literature at present.

E: You had nothing to do with Kansas in '99?

SM: No, we actually opposed what they were doing. So no, we had nothing to do with Kansas in 1999. We opposed what they were doing there.

C: Would you say you want the holes in Darwinian theory taught as the flaws? Some of your critics are suggesting that you're adopting code words, instead of directly advocating the teaching of intelligent design, that you're using what they call code language to disguise it. If you say you want to foster critical thinking and analysis and the strengths and weaknesses, but what you really want is the teaching of intelligent design, and that's what you're really after.

SM: Well, we've been very clear that we don't want to require the teaching of intelligent design, and as for the charge that we're using code when we say that we want to see

critical analysis of evolutionary theory taught, well, no we're not. Because there are criticisms of Darwinian evolution in the peer-reviewed scientific books and articles, and we think students have a right to know about those – that's just good biology education, to know not only the strengths of the theory, but also the weaknesses of the theory as you find them in the scientific journals.

C: They think that that's an old, traditional creationist tactic.

SM: Well, we're not the same people as the Creationists, and we're entitled to our own strategies and ideas, and what we really want to see is a more open scientific education to students – one that informs them not only about the current scientific theory, but also about the criticisms, and in the process teaches students to think critically about key scientific concepts, like Darwinian evolution. There was a very important book that came out this year with the University of Chicago press, called *The Origins of Phyla*, in which one of the leading paleontologists in the country reviewed the evidence for the Cambrian Explosion, the various attempts to explain this amazing event in the history of life, when you have between 25 and 40 new, fundamentally different kinds of organisms arise in the fossil record in a very geologically brief period of time, and this author, James Valentine, reviews the various attempts to explain this and says this is essentially an unsolved problem in evolutionary theory. Now, we're asking a simple question: can students know about unsolved problems like that, or must they get a kind of cookie-cutter presentation of the theory that glosses over all those things and treats Darwinian evolution as a kind of dogma. We think that treating it like a dogma is really contrary to the scientific approach and spirit.

E: What was your involvement in the Dover case?

SM: We have mainly asked the Dover people not to proceed upon the lines that they are proceeding.

E: But early on, were you giving them advice about what they could and couldn't do?

SM: We, again, as I said, asked them not to propose a curriculum mandate involving our theory.

E: And why is that? Why don't you want them to teach it?

SM: Well, we are trying to develop a scientific research program, and we are doing that. And it becomes more difficult when people propose ill-formed policy that in a sense trivializes our theory, and also secondly doesn't provide teachers with any kind of guidance or resources as to how to teach it. So we think that teaching about the theory is premature, not because it is not a good theory, that has not been very substantially developed in appropriate scientific venues and the scientific literature, but because there isn't sufficient comprehension among teachers at this point to teach about it correctly.

E: Ok, I want to go back to the wedge strategy – clearly it's on your web site. What is that? Can you tell me what that document is in context for us?

SM: Well sure. The document was a fundraising document that was explaining to people who have a theistic worldview as to why they might want to support our work.

E: And when was it initiated? I mean, who did you guys send it to?

SM: Well, actually I don't know that it got sent anywhere, and I don't remember who wrote it, actually. It was really a draft of a fundraising document, but it has been a huge source of internet speculation and conspiracy-mongering, and we think at some level that it is a little bit amusing, because all the terrible conspiracy theories might be true and there's still digital code in cells that has to be explained, and there is an evidential issue here that I think people are avoiding by spinning conspiracy theories. So we really like to keep the focus on the evidence.

E: Do you know what year it was written?

SM: No, I don't recall exactly. I think it was sometime in the late 90's.

E: Now those amazing videos that you guys produced. Did PBS ever show any of those?

SM: Unlocking the Mystery of Life was shown on over 30 local affiliates around the country, mainly on the two coasts. Here in New York, in San Francisco, in Los Angeles, in Miami. So, yeah, it got quite wide exposure on public television.

E: What was your pitch for the PBS stations – how did you get them to run it?

SM: I think it was linked through one of the satellite feeds, and a packet was sent out by the producers to the various local affiliates and they made their own decisions on it.

E: You didn't have to lobby them or anything?

SM: We certainly didn't. I don't know, maybe others did on our behalf, but no, I don't think there was any lobbying, I think it was just the decision of local producers. The shows had very high audience ratings for PBS science documentaries. At one point, the video was supposedly one of the featured documentaries on the PBS website, one of the top 3 sellers.

E: My last question. Last month the cardinal of Vienna wrote this op-ed piece that appeared in the New York Times saying that there was strong, strong evidence for a designer. Did you guys have any help in advising him or helping him write that?

SM: I certainly didn't. But I think there's tremendous evidence for a designer. The Cardinal put it by saying that an appeal to reason would lead to the conclusion of design.

He didn't go into the evidential details. But we think that's essentially correct. This isn't a matter of dogma or doctrine. This is something that you can tell by examining the evidence inside the cell, inside the DNA molecule.

E: Do you know if he had? Mark Ryland's help in writing it?

SM: I don't know about that.

[procedurals]

M: What is intelligent design?

SM: Intelligent design is the theory that there are certain features of living systems that are best explained by reference to an intelligent cause rather than an undirected natural process. In the 19th century, when Darwin was first concocting his theory, the cell was thought to be something very simple. But in the last 30 to 40 years, we've learned that the cell is chalk full of nanotechnology; there are turbines and pumps and ? machines, rotary engines. And most impressive of all, there are reams and reams of digital code stored along the spine of the DNA molecule. And if you think about that reflectively, and realize what we're looking at, we're looking at things that we think bear the distinctive hallmark of an intelligence. Bill Gates has said DNA is like a software program; Richard Dawkins said that it's like a machine code. We know from experience that intelligence always produces software, programmers produce software programs. We know more generally that intelligence always produced information, whether we find it in a hieroglyphic inscription or in the text of a written document. So when we find information embedded in DNA, in living cells, we think that we are looking at strong evidence for a prior intelligent source. So the theory of intelligent design is the idea that that appearance of design, that nanotechnology or that information that's embedded in a living organism, is not just an appearance, is not illusory as the Darwinists assert, but instead is evidence of real design, actual design. And so we contrast our theory with the Darwinian idea that things look designed—

[technology problems]

C: When you talk about digital information, information has always been part of evolution. Animals' instincts and the way animals and humans have adapted, there's nothing new about that, that's been well-established for hundreds of years.

SM: Well, what's been well-established in recent years is that the DNA molecule, the RNA molecule, embed information in the form of a four character chemical code, in which each of the chemicals function like alphabetic characters to convey information in a digital fashion. So yes, it's been known that animals are using some form of information to direct their behavior, but we're beginning to realize more and more about how the information is encoded, how it's transmitted, and the question that has never really been answered within an evolutionary framework is: where does the information come from that is necessary to build the first living cells. There was a major article last

year in one of the big cell biology journals saying that chance and necessity don't explain the origin of life, and the reason they don't explain the origin of life is that they have not accounted for the origin of the information you need to build life. So this is a fundamental problem in biology, it's still universally acknowledged that the origin of life has not been given a satisfactory evolutionary answer. And the reason for that, the principle reason, is that people have not been able to understand how all that information, all that code, got sequenced properly in order to build all the amazing widgets and gadgets that you have that keep us alive.

There's a difference between understanding that the cell encodes information or stores information, and knowing where it came from. Scientists for a long time have known that there is information in the cell. Scientists who are trying to explain the origin of life are getting increasingly frustrated at their inability to explain the origin of information from within the standard evolutionary framework, and intelligent design is supplying and proposing a different framework for understanding that. It's a framework that's based on what we know about what it takes to build information, which is intelligence.

M: One question I've had is that we've talked about the controversy and the debate. Do you think it comes down to a question of motivation? Do you think people are challenging the scientists who are working on intelligent design as to their motivation, and somehow that affects the credibility, that it's not some impartial scientific endeavor, but rather a means of trying to prove something that has already been decided?

SM: I think there's a tremendous amount of motive-mongering that is detracting from the substance of the debate. And the problem with motive-mongering is that everybody can play that game, everybody has a motive. Richard Dawkins has said that Darwin has made it possible to be an intellectually fulfilled atheist, something he thinks is a good thing. That it would be completely illicit for us to say, "well, Richard Dawkins is wrong about evolutionary biology because he wants to be an atheist." Motives are properly irrelevant to the assessment of an argument and to the assessment of evidence; and in any case, they are equivalent, there are motives on both sides: many of the leading people on the Darwinist side have motives, people on our side have motives. We want to see the debate settled and discussed on the basis of the evidence, and that's where we think it should finally reside.

E: Here's my last question Stephen. What do you think accounts for the fact that in a relatively short period of time the ? of intelligent design, which, I've got to say, I walk around the office and I say intelligent design and people don't know what it is, to where the president of the United States is endorsing it. What do you think accounts for that?

SM: As to people not knowing what it is, that's why we really hope you will include an answer from us explaining what it is in our own words, because that has been a big lacuna in coverage of this to this point. But as to your main question, I think that the reason that the theory of intelligent design is now gaining increasing attention is fundamentally the shift that has taken place in science over the last 50 years. As I said, back in the 19th century, even up through most of the first half of the 20th century, people

thought that the cell was very very simple, that, as one of Darwin's contemporaries, Thomas Huxley, said, that the cell is a simple homogenous globule of plasm. He conceived of it as essentially Jello. In the last 30 to 40 years, and the pace of discovery is quickening, we are discovering exquisite nanotechnology. As people are really taking that on board, there are more and more scientists who are joining the interest in intelligent design. Who are doing research based on it, doing research that promotes it, that makes a case for it. And so we think it's really the science that's driving the issue. Obviously there's been more interest in the media in the last nine months, but that wouldn't be taking place if people didn't sense that beneath all this smoke, there's fire, and I think that beneath the smoke of the controversy, there's a lot of scientific fire, and a very interesting kind of discussion. I mean, this is a fascinating topic, one which captivated me 20 years ago, and I have not lost interest in it yet. So I think it really is the science that's changed – certainly that was what changed my direction, was the scientific discoveries.

M: Do you think the public interest or the public debate is being fueled by the fact that this theory is friendly to Creationism, or theories about a theological being?

SM: I think the public has always been interested in these big origins questions, because yes they are scientific, but they are also laden with philosophical implications. And that's true on both sides of the issue. If you take a strict Darwinian point of view that the appearance of design is illusory, and that a purely undirected process produced that appearance, that is going to be a conclusion that is going to be more friendly to a materialistic worldview. If you take the opposite view, that the evidence of design in the cell is not just apparent but real, then that is going to be more friendly to a theistic worldview. And the larger philosophical considerations are part of what provides some of the energy and interest in the topic. But again, there's a real scientific issue here, and ultimately the issue has to be settled by reference to the scientific evidence and by arguments about how best to explain that. The evidence is one thing; the implications are another. We want you to settle the discussion on the basis of the evidence.