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Topic: Evolution

Defending Intelligent Design

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Phillip Johnson is known as the father of intelligent design. The idea in its current form appeared in the 1980s, and Johnson adopted and developed it after Darwinian evolution came up short, in his view, in explaining how all organisms, including humans, came into being. Johnson taught law for over 30 years at the University of California at Berkeley and is the author of the book *Darwin on Trial*, in which he argues that empirical evidence in support of Darwin's theory is lacking. In this interview, hear why he feels that such evidence is "somewhere between weak and nonexistent," why he feels intelligent design is a testable science, and why he thought the Dover trial was a train wreck waiting to happen.



"This whole Darwinian story, it seems to me, has been very much oversold," says Phillip Johnson. "It is an imaginative story that has been spun on the basis of very little evidence." [Enlarge](#)

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THE NATURALISM PARADIGM

NOVA: What is intelligent design?

Phillip Johnson: I would like to put a basic explanation of the intelligent-design concept as I understand it this way. There are two hypotheses to consider scientifically. One is you need a creative intelligence to do all the creating that has been done in the history of life; the other is you don't, because we can show that unintelligent, purposeless, natural processes are capable of doing and actually did do the whole job. Now, that is what is taught as fact in our textbooks. And to me it's a hypothesis, which needs to be tested by evidence and experiment. If it can't be confirmed by experiment, then you're left with the same two possibilities, and neither one should be said to be something like a scientific fact.

Why do you think some people do not accept evolution?

I think they see a problem. I don't think it's that they're ignorant. I think that they see that what's being given to them as evolution is less than science in that it hasn't really been proved, and yet it's presented as if it were proved. And on the other hand, it's more than science, in that it contains the whole philosophy behind it, metaphysics as it were.

As I understand it from reading your books and critiques, you see "materialism" as a very destructive thing in society. Can you tell me about this?

Well, by materialism I don't mean consumerism. I'm not talking about people who are greedy for material things. I'm talking about a philosophical system that explains what is real and what is not. A philosophical materialist believes that everything is, at the bottom, material composition. You start with the fundamental particles that compose matter and energy.

Another word for essentially the same thing is naturalism. It's stated a little bit differently. Naturalism says nature is all there is, and nature is made of those particles. (Don't let the distinction between matter and energy confuse you on this, because energy, like matter, is composed of particles according to the naturalistic viewpoint.)

Now, naturalism was most flamboyantly stated in the *Cosmos* series by Carl Sagan, which I remember watching many years ago. Sagan began that series with the pronouncement that the cosmos is all there ever was and all there ever will be. Nature is all there is, all there ever was, and all there ever will be, with nature being these substances that make up the stars and the particles that make up the different kinds of radiation that come from them. But that's all that there is.

A philosophy of naturalism or materialism is what generates the Darwinian theory. It's what generates the certainty that only unintelligent natural forces were involved in evolution, which is to say in the creative process that brought our kind into existence as well as all the animals and all the plants. That is all a non-negotiable claim on their part. And why is it a non-negotiable claim? Because if the naturalistic starting point isn't valid—if it isn't completely correct—then something else must have happened. What is that something else? It's something that they don't like that might get a foothold in science itself.

Maybe the creator is something more than an imaginary projection of people's minds. Maybe a creator is a necessary part of reality.

Are there social consequences to this philosophy of naturalism or materialism that you describe?

Yes, absolutely. Now, these consequences may be good or they may be bad. And they are attractive to some people and unattractive to others. For example, the naturalistic viewpoint is praised by those who like it for its tendency to liberate us from religious authority.

But what's the negative side? My understanding is you see not the positive side of materialism but the negative side.

I'm happy to concede that there is a positive way of looking at something and a negative way of looking at something. The negative side is that the naturalistic viewpoint leaves the way open for a kind of freedom from divine authority, a kind of moral anarchy.

GOD OR NATURE

Is this a motivation for what you do?

It is a motivation, and I don't think that there's anything wrong with that. I was an agnostic from the time I was a junior high school student up until my very late 30s. I had the kind of upbringing that is most likely to produce agnostics, a conventional kind of church-going requirement that never became real to me. I went to Sunday School because in those days mothers thought that was a good thing for their children on Sunday morning, and [on the way my mother] dropped my father off at the golf course. I grew up from that learning that when you got old enough so that your mother couldn't tell you what to do anymore, what you did was you played golf on Sunday morning.

So I was an agnostic, and then when I went away to Harvard as a college student, that tendency was very much encouraged. I grew up thinking that to be intelligent or well-educated was to be agnostic and to be liberal in politics. I went through various things in life and found that the agnostic pattern in which I had become socialized was not adequate for me. I became a Christian, and I found a kind of structure for my life that seemed to be a very good thing and to this day has enabled me to get through crises like two strokes.

And how did you come to view evolution?

One thing that fascinated me about the study of evolution was that it seemed to me to give a window into a very fundamental question that was bothering me: Is God real or imaginary?

As I read all of the evolutionary literature written for the general public, I saw that some of the proponents of Darwinian evolution were hard-core atheists like Richard Dawkins, and others were not. Some of them took a view that religion or belief in God is alright if you want that sort of a thing, but they assumed that it was an imaginary thing. I could see that this is why there was so much insistence upon the Darwinian story.

Believing in Darwinian evolution doesn't prove that there's no God. What it proves is that there's no need for God's participation to get all the creating done. Now, is that true? I was fascinated with that question of what's fundamentally true. If this Darwinian story is true, then nature does have all the creative power it needs to produce plants and animals and people. But if the story isn't true, if it doesn't fit the evidence, then maybe the creator is something more than an imaginary projection of people's minds. Maybe a creator is a necessary part of reality.

That to me was a fascinating issue. It certainly motivated me to think that this was an important subject, not just for biologists or even scientists but for people at large. So it was legitimate for a law professor to address it and for the public to make up their own minds about it rather than to take the word of the experts. That's what makes it important.

EVIDENCE FOR EVOLUTION

As we've gone about making this documentary, we've met professors in the natural sciences who'll say, "Let me just show you this mountain of evidence," and they show us fossil after fossil. Are these things not evidence of evolution?

They all exist. The question is what are they evidence of? Are they evidence of a mindless and purposeless evolutionary process? It may be that there was a slow development of one kind of thing into something else. But the important question to me is: Could this all occur solely by unintelligent, purposeless, material processes? Can we say that that has been confirmed? The theory of evolution may be true in a sense, but it may require the participation of an intelligent cause. That is the basic intelligent-design proposition—that unintelligent causes by themselves can't do the whole job. That doesn't say that everything was created all at once.

So what does intelligent design say about how life was created and how we ended up with the diversity of life we see today?

Well, the alternative is not well developed, so I would prefer to say that, as far as I'm concerned, the alternative is we don't really know what happened. But if non-intelligence couldn't do the whole job, then intelligence had to be involved in some way. Then it's a big research job to figure out the consequences of that starting point.

How would you go about testing for the existence of a designer? What is the research program?

I'd like to start with the first question. It is sometimes said that the hypothesis that there is a designer is untestable. This is false. It is testable, and the test is Darwinian evolution. The claim of the evolutionary biologists is that unintelligent causes did the whole job. If they can prove it, then the counter-hypothesis that you need intelligence has been tested, and it has been shown to be false.

But what I concluded after reading the literature was that the claim that unintelligent processes have been shown to be capable of doing all the work of creation, from the simplest creatures to the more complex ones, is unsupported. The evidence for it lies somewhere between very weak and nonexistent. When you try to get proof, you get stories about microevolution.

Instead of getting evidence of a creation story, what we're getting is evidence of temporary variation in the size of finch beaks.

But they're not talking about great transformations taking place all at once. They're talking about something happening very gradually over a huge amount of time. Why couldn't that be the case?

Well, why couldn't it? Often when one asks for a demonstration of the evolutionary changes that Darwinians claim, the answer that they always give is, "Well, it's done very gradually" and "This takes an enormous amount of time, millions of years, whereas we only live to be 100 if we're very long-lived, so it is quite impossible for the evolutionary change to occur in our time limits. That's why we don't see it."

My logical reaction to that is that's perfectly accurate if you assume that the evolutionary change of this enormous amount actually occurs. Then you can give a satisfactory explanation for why we don't see it. But there is another possible explanation for why we don't see it. The other possibility is that it doesn't happen. I think maybe that's what the truth is.

If it doesn't happen, then where do you go from there?

Well, if it doesn't happen, something else must have happened. The problem became clear to me as I read further and further that the one thing that evolutionary biologists are absolutely determined to support is their starting premise that all of the changes that brought about all of the different species and kinds of life on Earth happened by purely natural causes like random mutation and natural selection. So while there can be arguments over the details, there can be no argument or discussion over the fundamental principle that only natural—which is to say unintelligent—causes were involved.

The reason why that premise of natural causes has to be so inviolate and so ferociously defended is that what if something other than purely natural causes was involved? What would it be? Well, the most obvious answer to that question is it would be God. And they regard this possibility with horror, because it seems to unseat all of their science. It seems to take them back to the beginning or to the Dark Ages, as they would tend to say. You get God in there and that's the end of science, they think, so that can't be. But I wondered, maybe it could be.

I viewed myself as much more unprejudiced in that matter. I was willing to believe in a biological creation by Darwinian mechanism if it could actually be proved. But if it couldn't be proved, I thought it was quite legitimate to think of something else.

BEYOND SCIENCE**Do they really regard it with horror, or are they just saying, "This is something that is beyond what science can address?"**

At that point I would say if we can't consider the other possibility then let's not consider it. That's alright with me. But that doesn't mean that we know what did happen. This whole Darwinian story, it seems to me, has been very much oversold. And everybody is told that it's absolutely certain and certainly true, and because it's called science it has been proved again and again by absolutely unquestionable procedures. But this is not true. It is an imaginative story that has been spun on the basis of very little evidence.

Many scientists ask, "How do I go about testing intelligent design?" And if I understand correctly, you were saying that the test of intelligent design is whether something can be explained by evolutionary theory. But scientists say that's just a negative argument. That doesn't prove anything about intelligent design. How would you respond?

My business was actually making negative arguments. I looked at the grand story of evolution, the story that is important, the one that catches the imagination of the world and stirs controversy. This is the story that there's no need for a creator or a designer because the whole job can be done by unintelligent material processes. We know that that's absolutely true, such that any dissent from it should be treated as akin to madness. That's what I was looking at.

We ought to see humans occasionally being born to chimps or perhaps chimps born into human families.

Now, at this point the absolute certainty, the dogmatic insistence with which the Darwinists told their story, began to have a boomerang effect. Because it alerted me to the possibility that something is wrong here. If these folks can't even recognize that this isn't that convincing a story, then there's something wrong with their thinking. That was the starting point for my book *Darwin on Trial*. I thought, This is not something we should trust as a creation story for all of life, because instead of getting evidence of a creation story, what we're getting is evidence of temporary variation in the size of finch beaks or the color of peppered moths in a species. This is a totally different story. It's quite inadequate for the purpose, I thought. And I think the world should understand this.

ON COMMON ANCESTRY**How do you explain our genetic relatedness with chimpanzees?**

There is a relatedness. But what does it mean? Say we have almost 99 percent of our genes in common with chimpanzees. We also have at least 25 percent of our genes in common with bananas. There are these commonalities that exist throughout life. Do they point to a common evolutionary process or a common creator? That is the question for interpretation.

The genes are going to win when people ask me about that great degree of similarity between human genes and chimpanzee genes. I answer that genes must not be anywhere near as important as we have been led to believe. If there were that great a commonality between chimps and humans, it ought to be relatively easy to breed chimps and come up with a human being, or by genetic engineering to change a chimp into a human. We ought to see humans occasionally being born to chimps or perhaps chimps born into human families.

So the real question to me that needs to be explained is the enormous difference between chimps and human beings. That's what evolutionary science needs to explain and can't explain.

Isn't the most likely explanation that there is common ancestry?

It might be because of common ancestry. That is definitely a possibility to be considered. I'm just not insistent that common ancestry is true. It's a possibility.

Is there some other explanation for genetic relatedness besides common ancestry?

That's a possibility that has to be considered also, that there's a commonality not only between chimps and humans, but among all life. It's a common biochemistry. And thus this might be pointing to a single evolutionary process, or it might be pointing to the responsibility of a single creator.

EVIDENCE FOR ID**What is the evidence for intelligent design?**

What if the Darwinian mechanism doesn't have the creative power claimed for it? Then something else has to be true. It's two sides of the same coin as I look at it, and that's why I've always devoted my energies to making the skeptical case about Darwinism. Others have evidence of a positive nature—irreducible complexity and complex specified information are part of that.

To understand the positive evidence I think we have to realize that Darwin was writing a long time ago. He didn't understand anything about complex specified information or the irreducible complexity of the cell. In Darwin's day it was thought that cells were simply globs of a kind of jelly-like substance, a protoplasm. So it didn't seem to be very difficult to imagine how you could get a blob of some substance like mud at the bottom of a prehistoric pond, lake, or ocean. But since Darwin's day an enormous amount has been learned about the cell.

This is why my colleague Michael Behe's famous book is titled *Darwin's Black Box*. The point there is that to Darwin the cell was a black box. It did something, but you didn't know how it did it. So the cell was a black box in Darwin's day, and now it's been opened. Thanks to the work of biochemists and molecular biologists since that time, we know that the cell is so enormously complex that it makes a spaceship or a supercomputer look rather low-tech in comparison. So I think the cell is perhaps the biggest hurdle of all for the Darwinists to get over. How do you get the first cell?

It's not just that if they get the cell then everything else will be easy. But it was thought in Darwin's day that the cell was no problem at all. The only problems came after that. How do you get from cells to complex animals and then to apes, and from apes to human beings? That's the story that he told. Now, I don't think that story will hold water when you look for proof rather than just accept it as an inevitable, logical consequence of a naturalistic philosophy that you're starting out with.

IS IT SCIENCE?

Is intelligent design a science?

I think so. To answer that question I need to go back to the point that I see the scientific question as one of choosing between two hypotheses. One is that you needed intelligence to do the creating that had to be done in the history of life, and the other is that you didn't need it. Then the scientific approach is to decide between these two hypotheses on the basis of evidence and logic. That's what I want to see done. That's why it is a scientific question. If evolution by natural selection is a scientific doctrine, then the critique of that doctrine, and even of the fundamental assumption on which it's based, is a legitimate part of science as well.

As a big-picture story, the theory of evolution that we have today is invalid.

Isn't intelligent design just a newer version of creationism?

When people ask me whether this is creationism relabeled, one thing that always occurs to me is that the real creationist organizations are highly critical of intelligent design, because they say it doesn't do the job that is the very essence of creationism. It doesn't defend the Bible from the very first verse. It doesn't defend the Bible at all, and it doesn't even defend Christianity.

It's saying that there's an intelligence, but the intelligence could be natural as well as supernatural. And that if you assume it's supernatural, what the God is—well, we have nothing to say about what kind of God it is. It isn't limited to one particular kind of religion, to Christianity or to a particular kind of Christianity. If you want, it can be the Muslim god.

But if it's a supernatural cause, isn't that outside the realm of science?

It's true that supernatural causes are a subject outside of science. But intelligent versus unintelligent causes is a subject very much within science. For example, forensic scientists and pathologists regularly determine whether a death was due to natural causes or intelligent causes. If somebody dies of a purported heart failure, and then they do an autopsy on the body and find signs of arsenic poisoning, they say this was not a death by natural causes; it was a poisoning. That is perfectly legitimate as a scientific inquiry.

Now, if the intelligent cause turns out to be supernatural, that's a determination that is outside of science. But that you need intelligence is not a determination that's outside of science. It's the regular business of science, like deciding whether a drawing on a cave wall is a painting by prehistoric cavemen or a product of natural erosion and chemistry in the wall.

Are evolution and religious beliefs compatible?

Well, to a large extent it depends on what you mean by evolution. When I speak to audiences about this, I like to say that even the Darwinian theory of evolution is valid up to a point. The problem with the theory of evolution is not that it's altogether wrong, but that it's correct only in a very limited and relatively trivial sphere rather than as the grand creation story that it is made out to be. It's a good theory for how finch beaks vary in size or how disease-causing microorganisms become resistant to antibiotic medicines.

So it's valid within that limited sphere, and that may be important. That's interesting in itself. Scientists are largely interested in details, whereas I'm a different kind of person. I'm interested in the big picture. As a big-picture story, the theory of evolution that we have today is invalid, although some kind of a theory might be valid.

It also depends on what you mean by religious belief. Most of the evolutionary scientists will say, "We're not opposed to religious belief so long as you understand that that's what it is—it's religious belief. When you talk about God, for example, that's something that exists in the human imagination. It's something we study in the department of anthropology or psychology, where we talk about the beliefs that various kinds of people hold. Religious belief is one of those kinds of beliefs. In the university, we don't talk about it in the departments where we are considering what really happened. The beliefs may be important; they may even be beneficial. It's just that they don't reflect reality. They only reflect what's going on in people's heads."

That's the metaphysics of religion and science that is taken for granted in the universities. This is something that may change. One of the things that's so controversial and so hated about the concept of intelligent causes in biology is that it threatens this division of things into naturalism, which deals with how things really are and is called science, and religious belief, which [in their view] is about make-believe in people's heads out of fairy tales and the like.

What would it take to convince you of the theory of evolution by natural selection? That the theory that is out there today is actually true?

I would want to see evidence that the mechanism of random mutation and differential reproduction—that some organisms do more reproducing than others—that this had real creative power. It seems to me that besides the lack of physical or experimental evidence, just logically one would expect that random mutations would never build up biological information. They would tend to tear it down, even if it was already in existence.

Random changes scramble information. They don't increase it or produce it. If you have a word on the Scrabble board, and you take the letters and scramble them, you don't get a better word. You get no word at all; you get nonsense. I see every reason to think that that's what happens with mutations in the cellular machinery.

A THEORY IN CRISIS?

Is evolution a theory in crisis, as some people say?

I think it is a theory in crisis, but that requires some explanation. The authorities of the evolutionary scientific community would say, "We're not in crisis because we're as determined as ever. We still have a solid phalanx of belief. Yes, we get individual dissenters, but they are quickly closed off and marginalized. They tend to lose their research funds, be considered no longer real scientists anymore." So the community maintains its authority.

The crisis that they have to recognize is that they have failed to convince the public. They assumed that by this time they would have marginalized all the opposition and the public would be convinced. After all, they now had virtual control of the educational machinery from primary school on up through the Ph.D. level to do that. Plus all those documentaries on television and in the movies where the orthodox is put forward.

I foresee the day when Darwinian evolution will be taught in courses on British intellectual history,

and biology will have moved on.

It's understood that if you want to be about science, you have to be supportive of this theory. So that's been going on all these years, and yet the people are not convinced. Why is this? The mandarins of science, the high priests at the university level, will tell you it's because the people are ignorant and prejudiced.

Is that so? That's one of the questions I examined when I first took up the story. Are the people ignorant and prejudiced, or are they seeing something that the experts might have missed? See, it's a wonderful thing being an expert. As an expert, you know a lot that other people don't know. But also in the course of all your expert training, you pick up a worldview and a set of prejudices that you then become completely dependent on in order to continue to be an expert.

I decided that what is happening here is that the public has seen something that the experts don't understand. The public has seen that what they are getting from the evolutionary biologists is, on the one hand, less than science. It is over-enthusiastic claims of great accomplishments that are not supported by real, observational, and experimental evidence. In that sense, it's less than science.

On the other hand, it's much more than science, because it's a cultural philosophy, a worldview that probably belongs in a philosophy course rather than in a science course. I foresee the day when Darwinian evolution will be taught at universities in courses on British intellectual history, and biology will have moved on.

I see it as something like alchemy. It's a precursor to real science. The alchemists must have squealed like crazy when people said you can't really change lead into gold. But it was true that you can't transform lead into gold by a chemical means. So when the alchemic ambitions were given up, then alchemy was able to change into the real science of chemistry. I see that happening as well. I think that biological science will change. It won't vanish. It will just be based on reality and on genuine scientific testing. That's what I see in the future. That's the crisis.

THE DOVER "TRAIN WRECK"

What did you think about the Dover case?

The Dover case, unfortunately, was a train wreck waiting to happen. The problem was basically that we got too much publicity, and people pick that up. You get these people out in the country who are disturbed that something is being presented and taught dogmatically to their children as true. They think that a much more balanced approach should be taken, and they're frustrated that they can't get these schools to do that. They naively believe that their school board has the authority to do what they think ought to be done. So they go to the school board to present something and in fact give the votes to put it over.

What they don't understand is that they are moving into a legal minefield. The theory of evolution is ferociously protected by secularist organizations, with some backing from the courts. So the worst possible construction is going to be put on whatever they do. Very capable lawyers are going to come in to try to make fools out of them and to put every obstacle in the way of changing the dogmatic way in which evolution is presented in some of these schools.

So then they hear this term *intelligent design* and they say, "Well, okay. If we pick up that language and do it that way, then maybe we can do this. Our school board will do that, and we can accomplish what we want to accomplish." They know then they're going to get sued, that they're a threat. So they get a lawyer.

Unfortunately, the lawyer is not giving them good counsel. He's egging them on, saying, "We'll have a great battle here and we'll win." It's sort of like the dream that people had in the North in the Civil War in the early stages. If we could just have a big battle, then we'd win it and this war would be over, and that's all that we need to do. Just get into one big battle and win it all at once. That's what the lawyer is telling them. So they go ahead, thinking that they're riding a winner, and they create a train wreck. That's what happened there.

As for the judge and the opinion, the problem is that the judge didn't just decide the local case in front of him. He decided that he wanted to become a national figure by deciding the whole question of evolution and creation for the country in one opinion. So he wrote an opinion as big and broad as a starry sky, saying that the notion of intelligence, that one of these two hypotheses, was not eligible for consideration because it was religion and hence by definition not science. So any attempt in that direction was unconstitutional. He is being rewarded for that opinion with all the accolades that the mandarins of science have at their disposal.

DRIVING A WEDGE

Let's turn to your other work. Can you tell me what the "wedge strategy" is?

I'm glad for an opportunity to explain the wedge strategy, because I conceived it. I know it can be made to sound like something sinister and conspiratorial. But the wedge strategy as I have explained it is quite simple and innocent. We need somebody who can get a debate started, and then we need people who have the expertise to answer the questions that come up as the debate gets started. When you use a wedge to split a log, you start with the sharp edge of the wedge and then you gradually push that in until you get the thicker edge to go in, and that's what's actually splits the log.

I thought of it this way with Darwinism. I thought my job is to be the sharp edge, to use my academic credentials and legal abilities to get some hearing for the proposition that there really is something fundamentally wrong with the Darwinian story. It's not just a problem of detail, but rather a fundamental problem that the mechanism has no creative power.

But I can't answer all the questions that arise. So we need other people to form the thick edge of the wedge to take on the questions that do require a scientific expertise. Like a professor of biochemistry, Michael Behe, and a mathematician and philosopher of science, William Demsky. They have to take up other questions that arise and do some of the job that I'm not well-equipped to do after I've got things going with my arguments from logic and evidence. That's what the wedge is.

Is the Wedge Document your work? Did you write it?

I did not, but I did write a book called *The Wedge of Truth*. And so in that sense, just as I'm in a sense the father of the intelligent-design movement, I'm the father of the wedge concept. In the sense in which I have explained it, that it is a matter of my particular kind of logical arguing expertise at the beginning, to be supplemented and eventually replaced by [the expertise of] people with greater scientific knowledge and competence.

This is more than anything my faith: that given an even chance, the truth will win.

What's the strategy from here? Where does the wedge go from here?

At my rather advanced age I don't claim to take the leadership position in the same sense that I did years ago. It's largely going to depend on other people. In fact, what I am largely doing now is making contacts with people in the educational world. I hope we don't ever get another public schools case here for a very long time. If one comes up, I want to stay away from it.

But I think that the place where the kind of controversies I'm addressing belong is in the universities. That's where I want to take them. And they are being taken there. The professors are finding that these issues come up in their classes, and students think highly of the positions that I've been arguing, or many of them do.

I am in touch constantly with young scholars, including people in Ph.D. programs in biology, who see that there is something wrong with the Darwinian theory and would like to do something about it when they can. They like to talk with me because they don't want to get involved in the traditional creationist movement. They see that as going too far away from the current scientific orthodoxy.

I think they want to do what I set out to do when I first crafted the intelligent-design movement—to come out with a position that was not so enormously different from current orthodoxy that it couldn't be discussed but was different enough that it was really upsetting. In the end, I think I came up with something that was even more upsetting than I thought it was going to be.

People will be the professors of biology in the next generation, the opinion writers, the producers of television programs, and the editorial writers at newspapers. I have a commission to deal in education and not in litigation. We have a group that we call informally the "second wedge," which consists of literary people and writers and artists who discuss the issues of design, of intelligent causes in the history of life, and whether the naturalistic orthodoxy is as solidly based in evidence as it claims to be.

This, I think, may bear great fruit in the future in our culture. The Darwinists may have the federal district judges, or some of them, on their side. But the people are skeptical of what they hear from authority figures, including judges, anyway. I think the goal in the future is to change the intellectual face of the culture so that it isn't the way it was when I first went to college, when we were all taught that to be intelligent implies that you're agnostic.

Now, the universities are still that way by and large. But they aren't that way at the undergraduate level or even the graduate student level. Much is changing, and I'm trying to be a part of that.

AN EDIFICE THREATENED?

Is there anything else you would like to add?

I could go back to the question of the definition of science. That is perhaps more crucial than anything else. I have a view of science that is now disputed by secularist organizations and also by the most powerful organizations of science. I don't think they speak for science. I think they speak for an ideology that is widely held among contemporary scientists. This is the ideology of naturalism. And that is basically a religious position: The cosmos is all there is, all there ever was, and all there ever will be.

That isn't something that is established by data or tested by experiment. It's a fundamentally religious position or an ideology that has grown into science. The opinion of powerful people associated with scientific organizations has become central to its definition. And so they see the whole edifice as being threatened if that definition is called into question.

But I would call it into question. I would say that the proper definition of science is that it is a question of what follows from data and experimental testing. If you cannot test by experiment the claim that natural selection has the kind of immense creative power necessary to produce human beings or even biological cells, then to say that this mechanism can do these wonders is an unscientific statement. It's a statement of personal belief, a statement of philosophy, not a statement of science.

What is at stake?

Well, prestige is not for me. I'm going to be 67 this year, and by the time further developments happen, I expect to have passed on from this world. Things that excited me years ago will no longer be of any concern to me. So that's not it. I think that the world will change, and I think that in these open debates, the truth will eventually win out.

This is more than anything my faith: that given an even chance, the truth will win. If the evolutionary story is the truth, it will eventually win out as its partisans have been predicting that it would all along. It will hold not merely the societies of experts, but it will convince the public. I think that the reason it hasn't been able to convince the public is that it's not the truth. The public will gradually come to understand things better and better. The educational process will get better. We'll start with the truth, and the truth will prevail, whatever it is.

And what is your view of the truth?

My view of the truth is that there is a creator. I don't know how long the creator took, but I think there was a process of creation, and the evolution that has occurred has occurred within the boundaries originally set. That would be my belief as of now. I tend to think that that will prevail, because I think it's the truth. But if it's not the truth, it won't prevail, and it shouldn't.

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