

From MPR, this is justice talking.

“Can’t you understand, that if you take a law like evolution and you make it a crime to teach it in the public schools, tomorrow you can make it a crime to teach it in the private schools ?”

“The creationists have come up with a fancy new title for their initiatives called “intelligent design”, but it’s really the same thing. The idea is that we use supernatural explanations to explain natural phenomenon on earth.”.

Niall, when I was reading your book you said that you are open to the possibility of intelligent design were the evidence there. What would be adequate evidence for you “I’ll be frank with you ... I don’t know, but when somebody says to me Big Foot exists, the burden of proof is on their shoulders not mine, but I’m open to seeing the beast.”

I’m Margo Addler, coming up : “The fight over evolution in the public schools : A battle about science or religion”, stay with us.

Welcome to the national constitution center in Philadelphia. Today about 40 states and local school districts are considering proposals to change the way evolution is taught in public high schools. It’s a debate that has waxed and waned in the United States for more than eighty years. Most teachers and administrators backed by the vast majority of scientists believe that Darwinian evolutionary theory should be taught in science classes. Others believe that since there are still things that we still don’t know about the origin of humanity, students should be exposed to a variety of views, including the possibility of something called “Intelligent Design”.

We taped this show in April, since then the debate over how to teach evolution still continues in Kansas. State education officials held a hearing in May to determine if and how Intelligent Design should be included in its science curriculum. The board proposed statewide standards for teaching science that would be more critical of evolution. The final decision by the state board is expected this fall. President Bush recently said he endorsed the teaching of Intelligent Design, along with evolution, in American classrooms.

To help us understand this debate, we have with us Niall Shanks of East Tennessee State University and Paul Nelson of the Discovery Institute, a Seattle Think Tank. But first reporter Joshua Less looks at the fight over teaching evolution. Michael Behe a biology professor at Lehigh University in Pennsylvania believes Darwin got some major things right. For example, he believes the diverse forms of life on earth could share a common ancestor. “What aspect of his theory I disagree with is he says that this seems to have been the process of random mutation and natural selection. There’s very little persuasive evidence that such a thing could build the complexity that we find, particularly at the foundation of life in the cell.

Complexity is a term that Behe and other leading proponents of Intelligent Design use often. He says the molecular basis of life, that intricate network inside each cell must have been specifically designed by some force that knew what it was doing.

“Whenever we see a complex functional system put together like an outboard motor or a mouse trap, we always conclude that it’s the result of intelligence. The likelihood of it being put together by any other means is slim to none. And now we’ve found similar systems in life.”

He acknowledges the obvious difference, we know people make motors and mousetraps, but he says the fact that the intelligent force remains a mystery does not puncture a whole in the theory.

“That’s not unusual in the history of science, for science to conclude that something is operating but doesn’t know how.”

As examples, he points to gravity and the Big Bang theory, and though supporters of Intelligent Design include some in the religious community, Behe says that Intelligent Design is simply a logical deduction that should be presented in schools as a possibility.

“It has nothing to do with theological or religious preconceptions.”

“The creationist have come up with a fancy new title for their initiatives called Intelligent Design, but it’s really the same thing the idea is that we use supernatural explanations to explain natural phenomena on earth.”

Sarah Palace, a biology professor at Georgia State University says that proponents of Intelligent Design want to push science aside and push a religious view.

“They realize that it’s against the law in this country to put religion in science classrooms in the United States, so they are carefully not mentioning the word god in their own literature that goes out to the public, but their motives have been very clear in their own writings.”

She says that it’s the same battle that dates back to the famous Scopes trial 80 years ago when a teacher was charged with violating a Tennessee law against teaching evolution. Palace says there is no debate in the scientific community over evolution. If researchers ignored natural selection, they wouldn’t find answers to critical questions, including those about the cell. Palace complains that some parents have asked some schools, including those in Cobb’s county Georgia, to emphasize that evolution is a theory. She says that they misunderstand the term, evolutionary theory.

“A theory is something that incorporates all of the facts, all of the laws, all of the hypotheses and makes a sensible story out of all of that, and that is the best and only scientific explanation that we currently have for how the diversity on earth arose.”

Palace says that some schools are so concerned about the debate that they simply aren’t teaching evolution and students are left behind.

“They can’t be prepared for college level science. They can’t be in a position to compete with other people across the nation and increasingly around the world.

Seventeen year old Coleen Sullivan says that she is among the students who did not learn about evolution in biology class. She says that her teacher mentioned that there is a dispute over the issue but otherwise did not touch on the topic. Sullivan, thinks that’s OK.

“If anyone really wants to investigate it, they can learn it on their own, but the best thing I think to do, especially in public schools is not to discuss it so you aren’t offending anyone, or you aren’t disregarding anyone’s beliefs.”

But to her friend Brice Wisecarver, a 19-year-old graduate who did learn about evolution in High School, the whole debate just doesn’t make any sense.

“If we’re allowed to teach how were brought into this world by being conceived by our parents, why can’t we be taught how we were brought into this world by evolution. Like ongoing battles over sex education, the fight over teaching evolution in classrooms across the country speaks to people’s most closely held beliefs. It highlights religious and cultural differences in a diverse and splintered society. And no matter what scientists learn about the origins of life, some will see it as evidence that there must have been an intelligent designer.

For Justice talking, I’m Joshua Lebs in Atlanta.

I'm Margot Addler this is MPR's Justice Talking. It's a fight that some scientists wish would simply go away. When proponents of Intelligent Design say that they just want to teach the controversy, that is tell students that we don't yet have all the answers about how human life developed, some scientists feel attacked. After all, evolution has powered all kinds of discoveries, and scientists believe that it remains the best explanation, tying together a huge number of undisputed facts. They say, "Hey look, some people deny the Holocaust ever happened, but as a historian you wouldn't want that to replace teaching world War II history in the classroom." The passions on this subject of evolution and how it's taught run high, so with that as a prelude, let me introduce our guests to you, and we can get down to our debate.

Paul Nelson received his Ph.D. in philosophy from the University of Chicago, where he specialized in the philosophy of Biology and evolutionary theory. He is currently a fellow for the center of science and culture at the Discovery Institute in Seattle, and he is also a visiting faculty member at Viola University, a Christian school in Southern California.

Niall, Shanks earned his Ph.D. at the University of Alberta Canada, he currently teaches in the departments of Philosophy, Biology and Physics at East Tennessee State University. He is the author of "God Darwin and the Devil : a critique of Intelligent Design".

Please join me in welcoming Niall, Shanks and Paul Nelson to justice talking.

Now how do each of you believe that life first started on earth and does that belief fit in with your overall theory ? For example, ... well I guess that I would add to this what were you taught as children about the origin's of humans. Did you learn what you believe from parents, from teachers, or from your church ? Let's start with you Niall.

"I think that the key to understanding the origin's of life lies in organic chemistry, and the vast amount of data that has accumulated in recent years on self-organizing chemical processes. So I opt for a purely naturalistic explanation of the origins of life, and I place my faith in organic chemists to reveal the precise details as years of research go by."

And I assume that that is something that you basically learned from your teachers more than your parents or your church. Well my father was not an organic chemist, he was a Scotsman, and I actually didn't get too much of an understanding of the origin's of life certainly when I was going through the British equivalent of High School. What I've learned, I've learned from organic chemists that I've corresponded with."

So if the origin's of life has to do with organic chemistry as you've said, what about the origin of human life. Well humans did not evolve from chimpanzees, that's a common misconception. Human's and chimpanzees have a common ancestor in the distant past, and the fossil record as it gradually gets increasingly more complete is filling in the gaps in our understanding of the lineages that lead to modern humans and modern chimps."

So let me turn to Paul now, and ask you to talk about your own belief about the origin of life, of human life, and where you got that from.

"Well, when I look at the cell with its incredible complexity, its molecular machines, its information storage and processing systems, I see a kind of entity that is really a kind of hyper sophisticated nano-technology, and I think that Chemistry while real is just not the right kind of cause to bring about something like that, and I think in fact that that's testable, and Intelligent Design is looking into that. In term of the origins of humans, I think that there are things characteristic of us, things that make us what we are, especially human, for which there is no adequate natural explanation, our moral sense for instance, it's quite unlike anything that we see in nature, so I would have to ..."

"How would we know", I mean we can't get inside the heads of Dolphins or whales, or ..."

No, that's true, but we do things like adopt children from China, there's a whole generation of Chinese girls growing up in Manhattan, in Los Angeles, and cities around the

country, raised by families that waited too long to have kids of their own but they want to have children, now evolutionary theory tells you that those parents should be investing effort only in creatures with whom they share recent genetic ancestry. These Chinese girls, however, they don't have any recent genetic ancestry, so there human altruism is a real puzzle for human evolution."

"Oh I don't agree, there's a vast literature on the evolution of cooperation and altruism, including the interesting phenomenon of alloparenting that you mentioned, that is adults raising offspring that are not their own offspring. Altruism is not a unique human phenomenon, my goodness you see it in bees, you see it in elephants, you see it in wolves, it's not unique to humans at all, and in fact, our moral sense is probably more of a refinement of our animal heritage, than it is something unique that requires a nonphysical explanation, possibly lurking in the supernatural.

This is Justice talking from MPR, I'm Margot Addler, in our next segment, we'll talk with an author who has written several books on about what Americans think about evolution. He says the split in American attitudes is deep and unchanging.

"Roughly half of the American people, believe, in their answers to various polls, that humans were created within the last ten thousand years, directly by god, special creation, the genesis story of Adam and Eve, and roughly half of American people believe, that humans were created through an evolutionary process"

More about what American's believe about evolution and some surprising history we thought we knew when justice talking continues.

Have you been to the justice talking Website lately ? It's worth the trip. You can listen to our award winning debates, participate in on-line discussions, and find a wealth of resources on all the issues. Want a CD of this debate ? Order one on line. Want to join our live audience at the national constitution center ? Ticket information is on line. From the death penalty to Megan's law, video surveillance to free speech. Tune in to the sound of democracy at justice-talking.org

I'm Margot Addler, welcome back to MPR's justice talking. I'm here in Philadelphia at the Annenberg center for education and outreach at the national constitution center. I'm with Paul Nelson of the Discovery Institute and Neil Shanks of East Tennessee State University. We're talking about evolution and how its taught in schools.

Let me pick up the question we got from one listener. This is Colin Perrington of Swathmore Pennsylvania sent us this question over the Internet ... and you can all send us questions to be used in future shows by visiting us at justice-talking.org He writes,

"I wish you could rename the show Intelligent Design - Creationism. Even the authors of Intelligent Design admit that the whole renaming of Creationism was simply to fool the media and the public." Paul, How do you respond ?

"Well I disagree with that. Creationism ordinarily understood, takes its lead from a sacred text. It's important for that project to reconcile that sacred text with scientific observation."

"The bible"

"Right, not necessarily though, there are Islamic creationists who have a different concern. Intelligent Design is a much broader program, and in fact I would say that the diversity of use in Intelligent Design cannot adequately be described as Creationism, so I don't see that that's a legitimate criticism."

"Neil, did you want to respond before we go into a ..."

“Yeah I think so, it’s certainly true that the Intelligent Design movement is not the same as Scientific Creationism. It does however have a religious motivation. Whereas the old Creation Scientists took their inspiration from the books of Genesis, Bill Demsky, who is one of the leading Intelligent Design theorists, in fact is arguably their chief theoretician, is on the record as saying that Intelligent Design theory is simply the logos theology of John’s Gospel recast in the idiom of information theory. It is a religious theory; it does have a religious motivation. There’s nothing wrong with that, the only question is whether it should be taught in school ?”

Niall Shanks of East Tennessee State University and Paul Nelson of the Discovery Institute. Let’s go into the audience now and take a question.”

I’m Henry Whitney from Landsdale Pennsylvania, I would like to ask both of you, if you lose the political battle that will determine which of your ideas is taught in the public schools and the other guys ideas get in there, they get a lock on it, there’s no way you can change it, would you recommend that parents who agree with you, were to keep their tax money and to start private schools where the truth is taught, or to continue to support the government schools where the other guy’s fairy tales get taught ?”

“Whoh ... now who is this for ?”

“Both of them”

“Well let’s start with ...”

“All that I can tell you is that this debate won’t be settled by me, it won’t be settled by Paul, it’ll be decided by people in black robes, like the first Bush election was and I’m afraid that we shall probably simply have to live with the consequences of their decision, whichever way it goes.

“Paul Nelson”

“Well, I myself from the age of six in first grade was taught evolutionary theory. That’s what most biologists accept, if you are going to be educated in our culture, you need to know that theory, you need to understand it, and I really mean it when I say that I want more taught about evolution. The path to being an Intelligent Design theorist passes through a thorough education in evolutionary theory. It’s precisely the shortcomings and failures of evolution over the past century and a half that I want students to come to understand. I do not favor at this moment the teaching of Intelligent Design in public schools. It’s not a mature theory, at best it’s an embryo.”

“So what do you think should be taught ?”

“Well let me give you an example of just how complex this problem is. I’ll ask Niall, do you think that Darwin’s “Origin of species” should be something that students should be something that students can read in a high school biology class ?”

“Well oddly enough I don’t, and the reason I don’t is that it’s a book that requires an appropriate historical context to be provided for it, and that isn’t going to be done in the high school classroom.”

“How about your own book on this topic, is that suitable for use in the high school classroom”

“No, you see I don’t think that this debate belongs in the High School classroom, I think this debate is a debate that belongs in University classrooms where you have students who have gained a degree of intellectual maturity to understand the issues and have the background knowledge and historical context. I mean that people have said to me that we should teach the controversy, the fact is that most high schools in this country, apparently unlike the one that you went to, either don’t teach evolutionary Biology or make such a mess of it that people like me who do in College have to dig our way out of a huge pit.”

“Well, I’m trying to find a book that would be acceptable to you. How about Stephen Gould’s, “The Panda’s thumb”

“Well again, I don’t think that’s appropriate either, because a proper understanding of evolutionary biology is of necessity is going to have to begin with some genetic knowledge.”

“I have to say, I think you’re selling short High School students, I think High school students are able to appreciate and read many of these books, particularly by the time they’re sixteen or seventeen. I should just ask you ... very very quickly what were you trying to get at when you asked him about all these books.”

“All right. In the Panda’s thumb, in fact the chapter that gives that book it’s name, Steven Gould argues as follows, Gould says that if you look at the thumb of the Panda, which really isn’t a thumb at all, it’s a wrist bone, and the Panda uses it to strip Bamboo, is that the kind of structure that a really wise creator would have made ? And Gould says no it’s kind of jury rigged, you know its kind of a kludge, ergo the thumb and the Panda evolved. Now it’s a wonderful compelling argument, but one of its premises is theological. Much of the origin of species, in fact I would argue, really the main thread of the argument through the origin is that its all theological. For a student to evaluate those kinds of arguments they’re going to have to raise questions about theology. That’s why I put the question to Niall. It seems to me that we can’t ask a student to accept Gould’s authority on knowing what a sensible god would do, we need to debate that question, so I would turn that over to Niall.”

Well you know, never mind Panda’s thumbs, just look at the structure of the lower backs in humans, this get us much closer, particularly to older members of the audience who appreciate what back aches like in the lower back. No designer rational or otherwise, supernatural or otherwise would have designed the back with that structure, I mean it causes all sorts of trouble, in addition to lower back pain, we have the problem of hemorrhoid’s, I can only say at that point, thank God that we’ve intelligently designed Preparation H

“At this point, I’d like to play you a clip from a very famous movie about the battle over evolution”

“Can’t you understand, that if you take a law about evolution and you make it a crime to teach it in the public schools, tomorrow you can lake it a crime to teach it in the private schools ? And tomorrow you lay make it a crime to read about it, and soon you may ban books and newspapers.”

That of course was Spencer Tracy as Clarence Darrow in the film “Inherit the Wind”, which is based on the play by Robert E. Lee and Jerome Laurence. You might, as I did, that it presents a fairly accurate picture of the famous Scopes Monkey Trial which took the issue of teaching evolution to the Tennessee courts in 1925, but .. you’d be wrong, just like I was. Historian Ed Larson is the author of several books about evolution including his Pulitzer prize winning examination of the Scope’s trial called “Summer for the God’s : The Scope’s trial and America’s continuing debate over science and religion.” He unearthed the real history of the Scope’s trial and wrote about how it differed from the movie and play, “Inherit the wind”. The play it turns out was more about McCarthyism and less an accurate picture of the historic evolution trial. It turns out that William Jennings Bryan who provided a model for the Bible thumping villain in “Inherit the wind” was actually a progressive Democrat whose opposition to evolution was based on a belief that Robber Barons like Andrew Carnegie and John D. Rockefeller were misusing the concept of survival of the fittest to excuse their mistreatment of workers. It was social Darwinism, not Darwinism per se, as taught in the schools, that Bryan was crusading against. He’s more from Ed Larson about how the Scope’s trial really started as a publicity effort in the town of Dayton Tennessee.

In Dayton Tennessee, they had the bright idea that this would be an enormous publicity event if they, not as supporters of the law, if they could stage a test case, and so they asked John Scopes, who was not a biology teacher, who had never violated the law, who really didn’t know anything about evolution, he was a football coach. He taught math, and he taught one general science class, but he didn’t teach the biology class. He agreed to stand as

their “token” defendant. He was never put in jail, there was no chance of jail time because the penalty was a hundred to a five hundred dollar fine, it was a monetary fine, it was a misdemeanor. It was a totally friendly prosecution he was assured of his job the next year and ACLU was gonna mount, they offered to pay the prosecution costs as well as bring defense attorneys in, they were going to bring in Charles Evans Hughes who was, who had been on the United States Supreme court. When they saw that this set up was being designed, the Moody Bible Institute and the Worlds Christian Fundamentalist association asked William Jennings Bryan , who hadn’t practices law in thirty years, to go in and join the prosecution as a volunteer prosecutor to make sure that these guys didn’t just role over dead, that they’d played it serious. So that when William Jennings Bryan signed on for the prosecution, his old nemesis, the most famous agnostic in America, the person who would go around the country speaking against Christianity and against religious influences, but who was also the most famous trial lawyer in America, Clarence Darrow, volunteered for the defense.

And perhaps because of “Inherit the Wind”, the Scope’s monkey trial has remained one of the most famous trials in the United States. Larson says that American remain just as divided over evolution today, and he doesn’t believe that there’s much room for compromise by either side.

Literally, on this issue, it’s two parallel universes that exist in the same physical space but rarely, if ever, talk to each other. You go onto the, .. to any science institution, you go to the Universities, you go to that part of America, and these people are doing all of their work, I serve on panels for the human genome project, on funding for the National Institute of Health, and this is our tax money going out under the Bush administration, record increases every year, and it’s all going to science being done in an evolutionary framework. So you have that going on at one time, then you’ve got another parallel Universe that exists in the Evangelical Christian churches in the Pentecostal churches, that will often go to their own Bible schools to College, will often go to their own Christian schools for High School. Now rarely do these two worlds collide, but the one place where they do collide, they will collide in public school biology classrooms.

Paul and Neil, is he right, is that why that public schools have become the battleground over evolution, Paul ?

While actually I think that this issue is very heated in American history, and I think that was a wonderful clip from Doctor Larson, I actually think in human history, it goes well back into antiquity. You can find someone arguing like Plato from a point of view kind of like mine, and Democretis and other Greek philosophers arguing for a point of view very much like Neil’s, so I think of our origin, our character, our nature, our destiny are broader and deeper than in just our particular American context. I’m unhappy about the way that this debate is played out in the United States, I would love to see more interactions, I would love to see more events like where there can be a dialogue on the question.

Neil ?

Well I agree that these issues do have an enormous antiquity. When I teach my evolution class at Eastern Tennessee State University, we go back and we talk about Aristotle, William Paley, who in many ways was the originator of Intelligent Design theory to set us up for a discussion of Darwin and the later developments, but I agree with you that they are absolutely ancient questions.

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Is there a way to reconcile religious and scientific views of evolution ? What do people of different Faiths believe about how humans were created ? Share your knowledge and tell us your opinion at Justice talking dot O R G.

Let us take some more question from our audience here on justice talking. My name's Evie, and I

kludge : a clumsy or inelegant solution to a problem