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Expert witness: the scientists who testified against intelligent design

In 2004, a school board in Dover, Pennsylvania, announced that biology teachers would have to read out a statement about evolution in their lessons. The wording refers to “gaps” in Darwin’s theory and promotes intelligent design, the concept that a creative intelligence guides evolution. A group of parents filed suits against the board and called on two scientists to testify in support of darwinian theory.

Geoff Brumfiel sat down with Kenneth Miller, a cell biologist, and palaeontologist Kevin Padian to find out about their day in court.

Why were you chosen to be expert witnesses?

Miller: I wrote the textbook that they use in Dover. When this situation arose, I sent an e-mail to several of the Dover biology teachers saying I’d be happy help out. A month or two later the lead attorney for the plaintiffs called me up and asked me if I’d want to be an expert witness.

Padian: I’m president of the National Center for Science Education, a non-profit organization based in Oakland, California, that is particularly interested in the creationism–evolution debate.

Have you ever been called to do this sort of thing before?

Miller: I’ve appeared in a courtroom one other time, during a trial in Atlanta, over warning stickers that some of the school districts in Georgia had tried to put on my textbook. But I was not an expert witness, I merely testified to factual questions about how the book was written.

Padian: This is my first time.

Why did you feel it was important to testify?

Padian: It’s an opportunity when it really counts. One person can’t be everywhere around the country talking to every school board and every parent group. But this is a case where, ultimately, these decisions are going to clarify things in a formal setting.

Miller: It is the right thing to do. The battle in Dover is just one example of local battles for scientific education all over the country. If people in the scientific community turn their backs on people in the front lines, then

What they said in court

Kenneth Miller
Cell biologist at Brown University in Providence, Rhode Island

“If you invoke a non-natural cause, a spirit force or something like that in your research and I decide to test it, I have no way to test it. I can’t order that from a biological supply house, I can’t grow it in my laboratory. And that means that your explanations in that respect, even if they were correct, were not something I could test or replicate, and therefore they really wouldn’t be part of science.”

ultimately the cause of science in public education is doomed.

How long did it take to prepare for the trial?

Miller: Through the spring and summer I devoted 100–150 hours to preparing for this case.

What did you have to do to get ready?

Padian: I had to prepare an expert report, which basically says what you will talk about at the trial. It’s kind of like a review paper, except it has to be comprehensible to the judges and lawyers. Then I had to undergo a deposition, when the other side interviews you to find out what you’re going to say.

You were interviewed by the lawyers for the school board. What was that like?

Padian: It wasn’t really a hostile situation. The lawyer for the other side, a guy whom I like and respect very much, was really just trying to get his head around the science of evolution.

Miller: They tried to make it friendly, but it went on for nine-and-a-half hours, and it was pretty gruelling in the end.

What was the day of the trial like?

Miller: Like most scientists, I’m a stranger to

Kevin Padian
Palaeontologist at the University of California, Berkeley, California

“We’ll be the first people to admit that science doesn’t know everything and can’t know everything. But on the other hand, we would like a fair and accurate representation of what we do know.”

“It worries me that students would be told that they have to make a conclusion in advance of all the evidence that you can’t get from A to B, essentially, by natural means.”

the courtroom, and I found the decorum, the formality and the attention to procedure really striking. Arguments were heard and heard fairly. I was impressed with that.

Padian: I didn’t feel nervous. The judge was great. He is very smart, he is very attentive and he is running a tight ship, but it’s not stiff. The defence lawyers are good people, and our counsel is just fabulous. The testimony took most of the day, and I was glad to relax after a process that had taken months of preparation.

What can other scientists learn from your experience?

Miller: Science in a modern society is ultimately dependent on the public for support and acceptance. Scientists everywhere and in every field must be willing to make the case for science to the general public.

Padian: If you want to explain something to people, it has to be put in terms of the issues that they find important. Politicians, judges and the media are not impressed by someone thundering in and claiming that they have all the right answers.

As *Nature* went to press, arguments in the case were expected to conclude on 4 November, although a decision is not likely before December.