IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA
HARRISBURG DIVISION

TAMMY KITZMILLER, et al.,	:	CASE NO.
Plaintiffs	:	4:04-CV-02688
vs.	:	
DOVER SCHOOL DISTRICT,	:	Harrisburg, PA
Defendant	:	19 October 2005
.....	:	1:35 p.m.

TRANSCRIPT OF CIVIL BENCH TRIAL PROCEEDINGS
TRIAL DAY 12, AFTERNOON SESSION
BEFORE THE HONORABLE JOHN E. JONES, III
UNITED STATES DISTRICT JUDGE

APPEARANCES:

For the Plaintiffs:

Eric J. Rothschild, Esq.
Thomas B. Schmidt, III, Esq.
Stephen G. Harvey, Esq.
Pepper Hamilton, L.L.P.
3000 Two Logan Square
18th & Arch Streets
Philadelphia, PA 19103-2799
(215) 380-1992

For the Defendant:

Patrick Gillen, Esq.
Robert J. Muise, Esq.
Richard Thompson, Esq.
The Thomas More Law Center
24 Franklin Lloyd Wright Drive
P.O. Box 393
Ann Arbor, MI 48106
(734) 930-7145

Court Reporter:

Wesley J. Armstrong, RMR
Official Court Reporter
U.S. Courthouse
228 Walnut Street
Harrisburg, PA 17108
(717) 542-5569

APPEARANCES (Continued)

For the American Civil Liberties Union:

Witold J. Walczak, Esq.
American Civil Liberties Union
313 Atwood Street
Pittsburgh, PA 15213
(412) 681-7864

I N D E X
Kitzmiller vs. Dover Schools
4:04-CV-2688
Trial Day 12, Afternoon Session
19 October 2005

PROCEEDINGS

P R O C E E D I N G S

THE COURT: Be seated, please. All right, good afternoon to all. We continue with Mr. Rothschild's cross examination.

CONTINUED CROSS EXAMINATION

BY MR. ROTHSCHILD:

Q. Good afternoon, Professor Behe.

A. Good afternoon, Mr. Rothschild.

Q. Let's go on to immune system. That's another biochemical system that you argued in Darwin's Black Box and you argue in your testimony is irreducibly complex, is that correct?

A. Yes.

Q. And I'm correct in understanding that you have not written any peer reviewed articles in scientific journals arguing that the immune system is in fact irreducibly complex?

A. No. My argument is in my book, that's right.

Q. And nobody else has written any articles in peer reviewed scientific journals arguing that the immune system is irreducibly complex?

A. Nobody has used those terms, but there are articles which speak of the requirement for

multiple parts.

Q. They discuss what the immune system is comprised of?

A. Yes, in terms of it needing different several different parts.

Q. But those are not articles that argue for the irreducible complexity of or do not argue that the immune system can't evolve because it is irreducibly complex?

A. No, they don't argue that.

Q. Similarly you have not written any articles in peer reviewed scientific journals arguing that the immune system is intelligently designed?

A. Yes. Similarly that argument is in my book, so no, I didn't do it in peer reviewed articles.

Q. And nobody else has either?

A. That's correct.

Q. Is it the case that the AIDS virus is irreducibly complex?

A. I think that's something that would have to be argued on the basis of the evidence.

Q. You don't have a position on that?

A. No, I don't.

Q. What about anthrax?
A. I don't on that either.
Q. What about the Type 3 secretory system? Is that an irreducibly complex system?
A. I would have to, I do not right now have a position on that. So, no, I do not argue that.
Q. Okay. I mean, are there some pathogens that are irreducibly complex?
A. Well, I can't think of any right now, but there certainly may be. I don't rule it out.
Q. Isn't it the case, Professor Behe, that we only have about four irreducibly complex systems and the rest are not? I mean, you've got the cilium, the bacterial flagellum, the immune system, the blood clotting cascade, is that it?
A. No, I disagree. I think probably many other systems are, but I always want to be careful in my claims and so I stick to examples that I think are the best examples.
Q. But you don't know about any others besides the four written in your book?
A. I don't -- well, I certainly have my thoughts on the matter.
Q. Okay.

A. And I certainly that that irreducible complexity is a much, much better problem than, and it's not just confined to the examples in Darwin's Black Box. But in order to be as careful as I can I just talk about the best examples that I know of.

Q. And so the examples that I asked you about, which are harmful systems like the AIDS virus or harm up to us anyway, AIDS virus, Type 3 secretory system, anthrax, those are the kinds of systems that may very well be irreducibly complex?

A. They may well be, yes.

Q. And if they are and the immune system is also irreducibly complex, they're in sort of mortal opposition to each other?

A. Well, the phrase mortal opposition is not a scientific term. One can have a philosophical position on that I suppose, but I do not think that, I certainly wouldn't use that phraseology in describing it.

Q. But they are in opposition to each other, one's purpose is to destroy the other?

A. Now you're using the word purpose in a non-scientific sense. I think you're using

it more in terms of what, more a philosophical sense. Certainly the AIDS virus -- pardon?

Q. I'm not. I'm asking purpose in the sense of its function. The immune system's function is to combat these pathogens' function, correct?

A. The purpose of the immune system, yes, is to defend an organism against pathogens. I would not say that the purpose of the AIDS virus is to destroy the immune system. I think its purpose, if anything one could say that its purpose is to replicate. But even that I would be a little uncomfortable with.

Q. So acquired immune deficiency disease is not combatting the immune system?

A. You're asking if I thought that was the purpose of the AIDS virus.

Q. Its function.

A. I do not think that is its function, no.

Q. But in any event you do agree that the immune system, its function is to combat these kind of viruses?

A. Yes. Among other things, yes.

Q. Can you explain why would the intelligent designer design one irreducibly complex system and then another one to combat it or fight it?

A. The question of the intentions of the designer is a question that is separate from and beyond the question of whether there is design. We can know something that is designed without knowing what the designer intended for it. If I might just give an example from our everyday world, we can look at something like a gun or some such thing, realize immediately that it was designed, and not know what the purpose of it is for.

Q. But we do know a lot about the intentions, desires, motives, needs of the intelligent actors who designed those guns, correct?

A. I'm going to say I don't think so. Certainly we know that if a gun were made by a human being and we know, we have other information from other sources about that, so from that other information we can certainly deduce, make good arguments about what those might be, but the case remains that that is separate information, separate from the structure of the gun, and we decide that the gun is designed by looking at the structure of it, or get away from guns, just any mechanical complex object.

Q. We'll return to that in a little while. Let's turn back to Darwin's Black Box and continue discussing the immune system. If you could turn to page 138? Matt, if you could highlight the second full paragraph on page 138? What you say is, "We can look high or we can look low in books or in journals, but the result is the same. The scientific literature has no answers to the question of the origin of the immune system." That's what you wrote, correct?

A. And in the context that means that the scientific literature has no detailed testable answers to the question of how the immune system could have arisen by random mutation and natural selection.

Q. Now, you were here when Professor Miller testified?

A. Yes.

Q. And he discussed a number of articles on the immune system, correct?

A. Yes, he did.

Q. May I approach, Your Honor?

THE COURT: You may.

Q. I'm just going to quickly identify what these articles are. Exhibit P-256,

"Transposition of HAT elements, links transposable elements, and VDJ recombination," that's an article in Nature by Zau, et al. P-279, an article in Science, "Similarities between initiation of VDJ recombination and retroviral integration," Gent, et al.

"VDJ recombination and RAG mediated transposition in yeast," P-280, that's in Molecular Cell by Platworthy, et al. P-281 in the EMBO Journal, "En vivo transposition mediated VDJ recombinates in human T lymphocytes," Messier, et al, spelled like the hockey player. P-283, it says PLOS Biology, do you recognize that journal title?

A. Yes. It stands for Public Library of Science.

Q. And that's an article by Kapitnov and Gerka, RAG 1-4 and VDJ recombination, signal sequences were derived from transposons." P-747, an article in Nature, "Implications of transposition mediated by VDJ recombination proteins, RAG 1 and RAG 2, for origins of antigen specific immunities," Eglewall, et al. P-748 in The Proceedings of the National Academy of Science, "Molecular evolution of vertebrate

immune system," Bartle, et al., and now finally Exhibit P-755 in Blood , "VDJ recombinates mediated transposition with the BCL 2 gene to the IGH locus and follicular lymphoma." Those were the articles in peer reviewed scientific journals that were discussed by Mr. Miller which you listened in on, correct?

A. I recognize most of them. Some of them I don't recall, but that's fine.

32 Q. They discuss the transposing hypothesis?

A. Yes, they do.

33 Q. And the kind of mutation being discussed in here is a transposition in most of these?

A. You have to -- it depends on how you look at it. In many of them they're not actually discussing mutation. They're discussing similarities and sequences between parts of the immune system in vertebrates and some elements of transposons.

34 Q. But it does discuss the transpositions, correct?

A. It does, yes.

35 Q. In many of the articles, maybe all of them?

A. That's correct.

36 Q. You indicated earlier when we were

discussing your paper with Dr. Snoke that transpositions are a kind of mutation, correct?

A. Yes, they are.

37 Q. Now, you on Monday showed the court, or maybe it was Tuesday you showed the court that you had done a literature search of articles on the immune system looking for the words "random mutation," correct?

A. Yes.

38 Q. But you didn't search for transpositions, is that correct?

A. That's correct.

39 Q. And that word appears in a number of the titles here?

A. It does, but the critical difference is the word random. There's lots of mutations, and it's entirely possible that intelligent design or some process of the development of life can occur by changes in DNA, but the critical factor is are such changes random, are they not random, so just there are also many occurrences of the word mutation, but it was not just mutation that is the critical element of Darwinian theory. It is random mutation.

40 Q. But in modern Darwinian theory

transposition is one of the kind of mutations that natural selection acts upon, correct?

A. It is a mutation, and natural selection can act upon it.

41 Q. So the word mutation didn't show up, or random mutation, but a form of mutation that natural selection can act upon appears throughout these articles, correct?

A. Yes, that is right.

42 Q. And you also noted that natural selection does not appear in these articles?

A. That's correct.

43 Q. The selectability of the immune function, that's not really a controversial proposition, is it?

A. I'm sorry? What do you mean?

44 Q. The selectability of the immune system that that is a selectable function, I mean that's not very controversial, is it? It's a good thing, right?

A. If you mean is it beneficial for an organism to have one, I'm going to have to say that it's general, it's good for systems that, for organisms that depend on it to have one. But when you're thinking about evolution,

one of the things you have to think about to have a rigorous understanding of it is what it is changing from and what is it changing to. The question is is a particular mutation that happens going to have a net beneficial effect or a net detrimental effect is an open question, and in any step one can look at, that question arises very pointedly, is this going to help or is it going to hurt.

45 Q. But these articles do discuss immune systems that are different from the vertebrate immune system, correct?

A. Which one is that, sir?

46 Q. The articles about the transposon hypothesis.

A. I think most of them are trying to look at connections between vertebrate immune systems and precursor elements.

47 Q. And those precursors have some form of immune system, though not as robust as the vertebrate immune systems?

A. I'm not sure what you're referring to, sir.

48 Q. You said they're referring to precursors, those precursors are precursors that have immune systems, correct? Just not the kind we have?

A. Well, I don't think so. Transposons are thought to have arisen from I think bacterial-like elements which do not have immune systems, and so I'm not quite sure how to take your question.

49 Q. We'll get back to that. Now, these articles rebut your assertion that scientific literature has no answers on the origin of the vertebrate immune system?

A. No, they certainly do not. My answer, or my argument is that the literature has no detailed rigorous explanations for how complex biochemical systems could arise by a random mutation and natural selection and these articles do not address that.

50 Q. So these are not good enough?

A. They're wonderful articles. They're very interesting. They simply just don't address the question that I pose.

51 Q. And these are not the only articles on the evolution of vertebrate immune system?

A. There are many articles.

52 Q. May I approach?

THE COURT: You may.

53 Q. Professor Behe, what I have given you has

been marked Plaintiff's Exhibit 743. It actually has a title, "Behe immune system articles," but I think we can agree you didn't write these?

A. I'll have to look through. No, I did not.

54 Q. And there are fifty-eight articles in here on the evolution of the immune system?

A. Yes. That's what it seems to say.

55 Q. So in addition to the, some of these I believe overlap with the eight that I previously identified that Dr. Miller had talked about, so at a minimum fifty new articles?

A. Not all of them look to be new. This one here is from 1991 that I opened to, I think it's under tab number 3, it's entitled "Evidence suggesting an evolutionary relationship between transposable elements and immune system recombination sequences." I haven't seen this article, but I assume that it's similar to the ones I presented and discussed in my testimony yesterday.

56 Q. And when I say new, I just meant different from the eight that I identified with Dr. Miller.

A. Yes, that's right.

57 Q. A minimum of fifty, and you're right they're not all new. Some go back as early as 1971, and they go right through 2005, and in fact there's a few that are dated 2006, which I guess would indicate a forthcoming publication.

A. I assume so.

58 Q. Okay. So there's at least fifty more articles discussing the evolution of the immune system?

A. And midpoint I am, I certainly haven't had time to look through these fifty articles, but I still am unaware of any that address my point that the immune system could arise or that present in a detailed rigorous fashion a scenario for the evolution by random mutation and natural selection of the immune system.

59 Q. I think you said in your deposition you would need a step-by-step description?

A. Where in my deposition did I say that?

60 Q. Do you remember saying that?

A. I probably said something like that, but I would like to see it.

61 Q. Is that your position today that these articles aren't good enough, you need to see

a step-by-step description?

A. These articles are excellent articles I assume. However, they do not address the question that I am posing. So it's not that they aren't good enough. It's simply that they are addressed to a different subject.

62 Q. And I'm correct when I asked you, you would need to see a step-by-step description of how the immune system, vertebrate immune system developed?

A. Not only would I need a step-by-step, mutation by mutation analysis, I would also want to see relevant information such as what is the population size of the organism in which these mutations are occurring, what is the selective value for the mutation, are there any detrimental effects of the mutation, and many other such questions.

63 Q. And you haven't undertaken to try and figure out those?

A. I am not confident that the immune system arose through Darwinian processes, and so I do not think that such a study would be fruitful.

64 Q. It would be a waste of time?

A. It would not be fruitful.

65 Q. And in addition to articles there's also books written on the immune system?

A. A lot of books, yes.

66 Q. And not just the immune system generally, but actually the evolution of the immune system, right?

A. And there are books on that topic as well, yes.

67 Q. I'm going to read some titles here. We have Evolution of Immune Reactions by Sima and Vetvicka, are you familiar with that?

A. No, I'm not.

68 Q. Origin and Evolution of the Vertebrate Immune System, by Pasquier. Evolution and Vertebrate Immunity, by Kelso. The Primordial Vrm System and the Evolution of Vertebrate Immunity, by Stewart. The Phylogenesis of Immune Functions, by Warr. The Evolutionary Mechanisms of Defense Reactions, by Vetvicka. Immunity and Evolution, Marchalonias. Immunology of Animals, by Vetvicka. You need some room here. Can you confirm these are books about the evolution of the immune system?

A. Most of them have evolution or related words in the title, so I can confirm that,

but what I strongly doubt is that any of these address the question in a rigorous detailed fashion of how the immune system or irreducibly complex components of it could have arisen by random mutation and natural selection.

69 Q. Or transposition and natural selection?

A. Or transposition is a form of mutation, so when I say random mutation, that includes that, yes.

70 Q. Okay. Even though we have all these articles we have seen discussing the transpositions and the transposon hypothesis?

A. Well, again as I have tried to make clear in my testimony yesterday, often times people when they're working under the aegis of a theory simply assume some component of it, and my example of that was the ether theory of the propagation of light. All of the physicists of the relevant era, the late 19th century, including the most eminent ones, thought that that happened and they thought that ether was absolutely required by their theory, but it had turned out later not to exist. And so as somebody who's not working within a Darwinian framework, I do not see any evidence for the

occurrence of random mutation and natural selection.

71 Q. Let me give you some space there.

A. Thank you.

(Brief pause.)

72 Q. There's also books on the immune system that have chapters on the evolution of the immune system?

A. Yes, and my same comment would apply to those.

73 Q. I'm just going to read these titles, it sounds like you don't even need to look at them?

A. Please do go ahead and read them.

74 Q. You've got Immune System Accessory Cells, Fornusek and Vetvicka, and that's got a chapter called "Evolution of Immune Sensory Functions." You've got a book called The Natural History of the Major Histocompatability Complex, that's part of the immune system, correct?

A. Yes.

75 Q. And here we've got chapter called "Evolution." Then we've got Fundamental Immunology, a chapter on the evolution of the immune system. A lot of writing, huh?

A. Well, these books do seem to have the

titles that you said, and I'm sure they have the chapters in them that you mentioned as well, but again I am quite skeptical, although I haven't read them, that in fact they present detailed rigorous models for the evolution of the immune system by random mutation and natural selection.

76 Q. You haven't read those chapters?

A. No, I haven't.

77 Q. You haven't read the books that I gave you?

A. No, I haven't. I have read those papers that I presented though yesterday on the immune system.

78 Q. And the fifty-eight articles, some yes, some no?

A. Well, the nice thing about science is that often times when you read the latest articles, or a sampling of the latest articles, they certainly include earlier results. So you get up to speed pretty quickly. You don't have to go back and read every article on a particular topic for the last fifty years or so.

79 Q. And all of these materials I gave you and, you know, those, including those you've read, none of them in your view meet the standard you

set for literature on the evolution of the immune system? No scientific literature has no answers to the question of the origin of the immune system?

A. Again in the context of that chapter, I meant no answers, no detailed rigorous answers to the question of how the immune system could arise by random mutation and natural selection, and yes, in my, in the reading I have done I have not found any such studies.

80 Q. Let me see if I can summarize the intelligent design project. You've studied peer reviewed articles about the structure and function of the cell, correct?

A. Yes.

81 Q. And you conclude from them that certain structures are irreducibly complex that could not have evolved through natural selection, and therefore are intelligently designed?

A. I conclude from them that we see very detailed molecular machinery in the cell, that it strongly looks like a purposeful arrangement of parts, that in fact a purposeful arrangement of parts is a hallmark of intelligent design. I surveyed the literature and I see no Darwinian

explanations for such things. And when one applies one's own reasoning to see how such things would be addressed within a Darwinian framework it's very difficult to see how they would, and so one concludes that one explanation, Darwinian processes, doesn't seem to have a good answer, but that another explanation, intelligent design, does seem to fit better.

82 Q. And that conclusion tells you design is not one that's being asserted by the people who wrote the articles about the structure and function of the cell?

A. That's correct.

83 Q. And as we discussed before, one, a conclusion that many have actively disagreed with?

A. That's correct, too.

84 Q. And you stated that if the natural mechanism is to be accepted, its proponents must publish or perish?

A. I'm sorry.

85 Q. And then you stated in the Darwin's Black Box that, "If the natural mechanism is to be accepted, its proponents must publish or

perish."

A. I'm sorry, can I see that phrase?

86 Q. Yes, could you go to page 185 and 186 in the chapter "Publish or Perish"?

A. Yes. Okay, and what are you referring to here, sir?

87 Q. You stated in this book that on the subject of molecular evolution the advocates of the natural mechanism, the Darwinian mechanism, must publish or perish, correct?

A. I'm hanging up on the word natural mechanism. Where does that occur? I don't see that.

88 Q. The Darwinian mechanism?

A. Okay, Darwinian mechanism. Okay, yes, that's correct.

89 Q. You conclude the chapter called "Publish or Perish" by saying, "In effect, the theory of Darwinian molecular evolution has not published, and so it should perish," right?

A. That's correct, yes.

90 Q. And then all these hard working scientists publish article after article over years and years, chapters and books, full books, addressing the question of how the vertebrate

immune system evolved, but none of them are satisfactory to you for an answer to that question?

A. Well, see, that again is an example of confusing the different meanings of evolution. As we have seen before, evolution means a number of things, such as change over time, common descent, gradualism and so on. And when I say Darwinian evolution, that is focusing exactly on the mechanism of natural selection. And none of these articles address that.

91 Q. Again at the same time you don't publish any peer reviewed articles advocating for the alternative, intelligent design?

A. I have published a book, or -- I have published a book discussing my ideas.

92 Q. That's Darwin's Black Box, correct?

A. That's the one, yes.

93 Q. And you also propose tests such as the one we saw in "Reply to My Critics" about how those Darwinians can test your proposition?

A. Yes.

94 Q. But you don't do those tests?

A. Well, I think someone who thought an idea was incorrect such as intelligent design would

be motivated to try to falsify that, and certainly there have been several people who have tried to do exactly that, and I myself would prefer to spend time in what I would consider to be more fruitful endeavors.

95 Q. Professor Behe, isn't it the case that scientists often propose hypotheses, and then set out to test them themselves rather than trusting the people who don't agree with their hypothesis?

A. That's true, but hypothesis of design is tested in a way that is different from a Darwinian hypotheses. The test has to be specific to the hypothesis itself, and as I have argued, an inductive hypothesis is argued or is supported by induction, by example after example of things we see that fit this induction.

96 Q. We'll return to the induction in a few minutes.

A. Yes, sir. Mr. Rothschild, would you like your books back? They're heavy.

97 Q. Help me get to sleep tonight.

A. Thank you.

(Brief pause.)

98 Q. Now, you raised a couple of other areas where the theory of evolution or science generally doesn't have complete answers, correct? I'll give one example, that's the evolution of the phenomenon of sexual reproduction.

A. Yes.

99 Q. And you don't claim to be an expert on the issue of sexual reproduction, or the evolution of sexual reproduction, and we're trying to afford all puns here.

A. No, I do not.

100 Q. And you have no explanation for how or why the phenomenon of sexual reproduction was intelligently designed?

A. No, I don't have an explanation for that either, no.

101 Q. Then you also brought up the subject of origins of life, and I think we can agree that there are many, many, many unanswered questions on that subject, correct?

A. Yes, I certainly can agree to that, and it makes a person who is not presuming an unintelligent framework to look at that with great suspicion.

Q. Intelligent design has not explained how the first biological life arose on earth, has it?

A. In the sense that it has not proposed a step-by-step pathway whereby that happens, but I think an excellent case can be made, although I did not do so myself in my book, that in fact the origin of the first life, since from what we know is a cell is the smallest free living organism that we know of and is a very complex object and has purposeful arrangement of parts, I think has, a strong argument could be made that in fact intelligence was needed in the origin of life.

Q. But you haven't argued that?

A. I have not.

Q. You have not written any peer reviewed articles on it?

A. No.

Q. And nobody has written any peer reviewed articles on the, in the scientific journals on the intelligent design of the origin of life, correct?

A. Well, actually that's not quite right. There's that article "Directed Panspermia" that

was discussed earlier by Francis Crick and Leslie Orgel. They in fact explicitly argue that one hypothesis one might advance is that the origin of life on earth is the result of intelligent activity, in their case they envisioned space aliens sending a rocket ship to earth. So I don't think your statement is quite true.

106 Q. So we'll just have to go back to the question of origin of life in the universe, which that wouldn't answer?

A. Well, as they explained in their article, nonetheless the question of the origin of life on earth is a historical question of great interest, and they speculated that conditions wherever life arose first might have been quite different from conditions on the earth, so that perhaps life could have arisen more easily there. And so they did not, though I certainly share your concern, they, Francis Crick and Leslie Orgel did not think that that particular question was particularly, that it ultimately couldn't be answered.

107 Q. And those arenas where life, where the origination of life might be easier to

accomplish, they were still talking about natural product, is that correct?

A. They were, yes, they had in mind a natural process, and I could take this opportunity to remind, to reiterate that intelligent design does not rule out natural processes.

108 Q. So per your article considers that highly implausible.

A. I certainly do consider it implausible.

109 Q. Professor Behe, you discussed a while yesterday the concept of the molecular clock.

A. Yes.

110 Q. That was in response to a point Ken Miller had made in his testimony?

A. That's correct.

111 Q. May I approach?

THE COURT: You may.

112 Q. Can you pull up the biochemical similarity slide? Now, these are, you can flip through them, these are slides that Dr. Miller used when discussing the issue that you then responded to with the molecular clock?

A. Yes.

113 Q. And let's look at the first page of that slide, Dr. Miller's, and he's discussing a

problem he has with Pandas, correct?

A. Yes, that's right.

114 Q. And looking at the first page, what he wrote on the slide, or actually quoted from Pandas is, "When measurements of the similarities between proteins were put side by side, the pattern that emerges contradicts the expectations based on Darwinism," and he goes on, in Pandas on page 37, "Notice that the cytochrome C of this insect exhibits the same degree of difference from organisms as diverse as humans, penguin, snapping turtle, tuna, and lamprey, and the reason this finding is so surprising is that it contradicts the Darwinian expectation."

And then on the next page it states, next page of his slide, I'm still quoting from page 37, it states that, "Darwinism would predict a greater molecular distance from the insect to the amphibian and to the living fish, greater distance still as to reptiles, and greater than that to the mammal. Yet this pattern is not found." And then go on to the next slide, still quoting from Pandas on page 36, it says, "To use the classic Darwinian scenario, amphibians are

intermediate between fish and other land dwelling vertebras."

And turning to the next slide, quoting from page 140, it talks about corresponding to the expected transitions from fish to amphibian to reptile to mammal. And if you go to the last page of the slide, Dr. Miller's illustrations in an illustration of his own what the problem is, right? "Pandas misleads students as to the actual prediction of evolutionary theory by pretending that evolution predicts a linear sequence, tuna, frog, turtle, chicken, horse. Amphibians are intermediate between fish and birds and mammal," right?

A. Yes.

115 Q. And that's not what the Darwinian theory suggests, correct? It does not project that the sequence is in that order, linear, tuna, frog, turtle, chicken, horse, correct? That's not what Darwinian evolution states, correct?

A. You'll have to help me and tell me what Darwinian evolution does state.

116 Q. You understand Darwinian evolution to propose a tree in which animals of this kind are on a tree with a common ancestor, not linear

in this sequence, and if you could go to the page two prior, Matt? And just focusing on that tree, that's what evolutionary biologists who are working from the evolutionary theory, that's what they believe is the correct way to describe the phylogeny, correct?

A. I'm afraid this is using an extremely simplified diagram to make points which do not follow from it.

117 Q. Dr. Behe, I'm not asking about the timing. I just want to talk about the sequence, okay? And you would agree that what evolutionary theory predicts, forgetting about the timing and how the molecular clock works, is that the phylogeny is in that tree form and not tunas becoming frogs becoming chickens becoming horses, right? Instead it's common ancestry, right?

A. Certainly Darwinian theory predicts common, or posits common ancestry. The question that Pandas existing, is addressing however, is not that. It's why these proteins have the particular sequences they do.

118 Q. But when Pandas says to use the classic Darwinian scenario amphibians are intermediate

between fish and the other land dwelling vertebrates, that's not a correct characterization of the theory of evolution, is it?

A. No, that isn't, no.

119 Q. It isn't. And whatever the right answer is about the molecular clock, it has nothing to do with that statement, correct? It doesn't make that statement correct?

A. The molecular clock does not say that. That statement is not accurate.

120 Q. Matt, could you pull up pages 99 to 100 and highlight our favorite passage? That was the passage we spent some time on yesterday, " 5intelligent design means that various forms of life began abruptly through an intelligent agency, with their distinctive features already intact, fish with fins and scales, birds with feathers, beaks, and wings, etc." You said a few things about this passage. One is you don't like it so much.

A. I certainly would have written it differently.

121 Q. You don't think it's an accurate representation of intelligent design?

A. I think intelligent design is described better elsewhere in the book.

122 Q. Okay, and you also testified that intelligent design has advanced beyond where it was with Pandas?

A. That's correct.

123 Q. And you also said -- Matt, if you could pull down highlighted text and highlight page 99, or you can just look in your book Professor Behe, there we go, that you didn't read the graphic up here, Figure 4.4, to have anything to do with the issue of common descent, correct?

A. Yes, that's right. The way I read it, it was trying to describe what they perceived as the fossil record.

124 Q. Now, yesterday I asked you about the book Design of Life.

A. I had forgotten.

125 Q. The book the new version of Pandas to use a very colloquial term that Dr. Dembski is working on?

A. Yes.

126 Q. And that was the one where he said you were an author, but at least right now you're not, right?

A. That's right.

127 Q. Professor Behe, what I have given you is what we have marked as P-775, which is a chapter from the draft manuscript of Design of Life. This was produced to plaintiffs in this litigation, and you see it's got, this chapter is headed "The Fossil Record."

A. Yes.

128 Q. And if you flip to page 22 of that chapter?

A. I'm sorry, page 52 did you say?

129 Q. 22.

A. 22?

130 Q. The subchapter is headed "Sudden Emergence."

A. Yes, I see that.

131 Q. Is that a term that you have heard used in the intelligent design community?

A. Is it in Pandas?

132 Q. I'm asking you just based on your own experience.

A. It's not that familiar, no.

133 Q. Some familiarity?

A. I may have heard of it, but I can't, you know, say for sure.

134 Q. Okay. And what it says here, if we go to,

it says right under that heading, " 5there's a fourth option for explaining the gaps in the fossil record besides imperfection of the record, insufficient search, and punctuated equilibrium. There is also sudden emergence." And do you recall from our discussion yesterday there was a similar breakdown in Pandas on pages 96 and 97?

A. Yes, I think they also gave four possibilities.

135 Q. Okay, and it says, "Explain the gaps in the fossil record by means of sudden emergence is to say that the gaps are real, that the discontinuities in the fossil record represent discontinuities in the history of life. Sudden emergence isn't just saying the transitional links containing major groups of organisms are absent from the fossil record. It's saying that the transitional links are absent, period. They never existed." That's what it says?

A. That's correct, that's what it says.

136 Q. And we had some back and forth yesterday about abrupt appearance of fossils as opposed to abrupt beginning of life or appearance of life, and this is pretty clear to take pains

to distinguish the two, isn't it?

A. Yes, it seems that that's exactly what they're trying to say.

137 Q. Okay. If you could turn to page 28 of the manuscript?

MR. MUISE: Your Honor, I'm going to object insofar as this document is being offered for the truth of the matter asserted. As his testimony already previously identified, he's not an author, he has no part in it. If he's going to be asking him to I guess to try to impeach something that may have been said, I'm not sure what the purpose is. It appears right now he's trying to offer it for the truth of the matter asserted inside, in this document, which is a draft that Dr. Behe has no part in taking.

MR. ROTHSCHILD: Dr. Padian would kill me if I introduced this for the truth of the matter asserted. I'm not suggesting that at all, Your Honor. It's for impeachment. He has made statements about the contents of Pandas and what it means and the development of intelligent design, and its for purposes of impeachment and that only.

MR. MUISE: Again, Your Honor, you've got a

draft document that has, he's had no part in it. How does that impeach what's the development of intelligent design? He's certainly had no part to contribute in this, to fix errors and corrections that may have been made, it's not used to establish anything other than he's trying to offer it to assert the truth that's in the document.

THE COURT: Well, I don't think he is offering it for the truth. I don't see that. So I can discard that as a reason. Certainly --

MR. ROTHSCHILD: May I offer one more?

THE COURT: Certainly -- go ahead.

MR. ROTHSCHILD: Dr. Behe, has made some pretty stark claims about what intelligent design is and isn't about. He made it about Pandas. He's just made it about intelligence design generally. It makes certain claims, it doesn't make other claims, and this document goes to that issue.

THE COURT: Well, you don't doubt the authenticity of the document, do you?

MR. MUISE: My understanding is it's a draft document. That's --

THE COURT: Well, it's more than a draft

document. It's a draft document of a -- well, it's a draft document to be sure, but it is a draft document of a succeeding volume, is it not, Of Pandas and People? We know that, don't we?

MR. MUISE: You know what, Your Honor? I'm not exactly sure if that's the case. I believe there was some discussion this may not even be for a high school level. I'm not sure, I mean, it's not Volume 3 of Pandas and people. I believe it has a different name. It's certainly a book that in develop Dr. Behe's had no part in the development of this particular book.

THE COURT: However, he said he might in the future.

MR. MUISE: He might in the future, but not right now. So what's in it right now has not relevant to what's right now.

THE COURT: Oh, I think it's highly relevant. No, I think that unless you can come up with something that calls into question the authenticity of it, and I don't think you can, I think what your argument there goes to exactly what it is, whether it in fact is a Volume 3 or not, the court is familiar enough

with what it is, having had meanderings on this in the course of the litigation that we're certainly familiar. I don't think there's any issue about what it is. There may be an issue as to its intended audience. I think to the extent that it is hearsay, it has a high degree of reliability.

I think it meets the test under Rule 807. I think it's proper for questioning. I don't take it for the truth. I'm not accepting it for the truth. Again this is a bench trial. I don't, I think it's not inappropriate for him to question. I will guard the record insofar as I will not allow Mr. Rothschild to simply read passages that are not related to questions, and I'll take your timely objections as I did with the other material in that regard. Do you want to say something else?

MR. MUISE: No.

MR. ROTHSCHILD: Your Honor, just for the record, this was produced through defendant's counsel while Dr. Dembski was still their expert.

THE COURT: Well, I'm well aware with how it

emerged, so we don't need to discourse about that.

MR. ROTHSCHILD: Matt, could you highlight the bottom paragraph through the Figure 6.8?

BY MR. ROTHSCHILD:

138 Q. This passage of the draft manuscript reads, "Sudden emergence holds that various forms of life began with their distinctive feature already intact, fish with fins and scales, birds with feathers and wings, animals with fur and mammary glands. Sudden emergence is the face value interpretation of the fossil record. It interprets the structural differences separating the major types of organisms in the fossil record as a generally true reflection of biological diversity and natural history." First of all, the use of the word "true" in science is somewhat problematic I think you have told us?

A. I don't think I have ever mentioned anything on that topic.

139 Q. And if we could look to the top part of this, sudden emergence through up to the mammary glands, I'm going to ask Matt to pull up a comparison we made between Pandas and this

document, and what we see is intelligent design means has been removed and we've got, "sudden emergence holds," taken out the words intelligent agency, and it's not just fish and birds that came out already intact but also mammals. But it's a pretty similar statement, isn't it, Professor Behe?

A. The writing is similar. I think this is an improvement to tell you the truth, because now it doesn't say intelligent design means that. Intelligent design does not mean that.

140 Q. Sudden emergence means that?

A. Yes. That's a separate idea. It is not intelligent design.

141 Q. I thought you weren't familiar with that idea.

A. I'm sorry?

142 Q. I thought you weren't familiar with that idea that relates to the intelligent design movement.

A. Well, I'm reading the text there, so that's how I became familiar.

143 Q. In your own mind it's a different concept?

A. It most certainly is. Like in saying intelligent design, the core claim is that

intelligence was involved in the process of producing something. But if you want to make other claims about it, like how it was done, when it was done and so on, then you need further evidence, and it seems here, it looks like from my brief reading of the text that they are making a further claim beyond the claim of intelligent design, and properly they're calling it something else here. It was incorrect in the first edition to call it intelligent design, but here they call it by some other name. And so I see no difficulty in saying that sudden emergence means this. I just point out that it does not say that intelligent design means that.

144 Q. Hopefully we won't be back in a couple of years for the sudden emergence trial. But this clearly does as the passage we read --

THE COURT: Not on my docket, let me tell you.

145 Q. Related cases, Your Honor? Going back to the full text that we were looking at before we did the comparison, this surely is a direct challenge to the proposition of common descent, isn't it?

A. Yes. It's a direct challenge, yes, that's

correct.

Q. And it says, "In making that challenge accordingly, the history of life is properly to be represented as shown in Figure 6-8." Do you see that?

A. Yes, I do.

Q. Matt, if you could turn to the next page and highlight that first indication there? It says here Figure 6-8, insert Figure 4-4 on page 99 of Pandas and that's the figure that we looked at before in Pandas on which, with the bars?

A. Okay.

Q. Right? Okay, that's the figure, the same figure 4.4 which they're saying is 6.8?

A. Yes, it looks to be the same.

Q. They're relying on that figure in support of their challenge to common descent, correct?

A. It seems that they're using a similar figure, perhaps even identical now, to support this claim.

MR. ROTHSCHILD: Your Honor, I have one last set of questions. I can proceed or --

THE COURT: We've been out about an hour. How long is the line of questioning?

MR. ROTHSCHILD: I think it's in the half an hour --

THE COURT: All right, why don't we take a break at this point, I think that's probably appropriate, and we'll break for about twenty minutes, and then we'll pick it up with your last line of questioning at that point. All right? We'll be in recess.

(Recess taken at 2:36 p.m. Proceedings resumed at 3:03 p.m.)

THE COURT: Be seated, please. All right, Mr. Rothschild. Your next area?

CONTINUED CROSS BY MR. ROTHSCHILD:

150 Q. Thank you. Professor Behe, you've described your argument for intelligent design as having a positive argument that you call a logical inference or inductive reasoning, is that correct?

A. Yes, that's right.

151 Q. And inductive reasoning you testified is a form of scientific reasoning?

A. Yes.

152 Q. And you described that in your testimony as reasoning from what we do know to what we don't know, correct?

A. Yes.

153 Q. You would agree that inductive reasoning as science doesn't allow us to reason from what we do know to what we can't know, correct?

A. Nothing can allow us to reason to what we can't know by definition.

154 Q. And the inference or the inductive reasoning that you're arguing for is that when we see a system which is complex and functional, we have in our experience always found that such a thing was designed, correct? That's part of it?

A. Yes, that's part of it, and you have to remember that there is this quantitative aspect of the argument as well.

155 Q. And I'll get to that, but when we're talking about those things in our experience, you've used the examples of a mouse trap or Mt. Rushmore?

A. Yes.

156 Q. So those are things, systems we see, and in our experience have found are designed?

A. Yes.

157 Q. And from that inference, from that fact we can infer that when we see systems in the cell

that are complex and functional, we can infer that they were designed?

A. Yes. That's the argument.

158 Q. Okay. And you said again that the strength of the inference is quantitative, but again you haven't quantified it.

A. I have not put numbers on it, but one can kind of do intuitive judgments about these things.

159 Q. And when you say it's intuitive, you're sort of talking about just sort of intuitive probability?

A. Just looking at it and seeing how, looking and seeing how intricately the parts are, how intricate the parts are and how they fit together, so yes.

160 Q. And either yesterday or the day before I think you testified that the strength of an inference is the similarities from what we do know to what we're making inference to what we don't know, right?

A. Well, the similarities in the sense of the particular properties that the things share. For example, the motion of particles away from an explosion on earth such as a cannon ball and

motions away from each other in the Big Bang, yes.

Q. You've been doing so well, which I appreciate. So we can recognize that my keys, they look designed right?

A. Yes, they do.

Q. And therefore we can infer that my hand that's holding them is designed?

A. I'm sorry?

Q. Therefore we can infer that my hand, which is holding them, is also designed?

A. I'm not quite sure why you say therefore.

Q. Well, you said the inference, the inductive reasoning is that we see systems in our everyday experience we recognize as designed, and I think you agreed the key is an example of that.

A. Yes.

Q. And so from that we can infer to biological life that my hand, also pretty intricate, is also designed?

A. Well, a purposeful arrangement of parts, yes.

Q. And my watch, that's designed?

A. Yes.

Q. Therefore my eye is designed, sort of the

same, we can reason that my eye is designed?

A. That's not quite the way I would say it. I would say I would look at all those mechanical things like the watch, like even the keys and so on, and say that all those in our experience required intelligence in their production, and therefore when we come to biological objects we can use similar reasoning for those.

168 Q. And reason that my eye is designed?

A. I'm sorry?

169 Q. And reason, if I can reason that my watch is designed, I can also reason that my eye is designed?

A. Well, you can certainly reason that aspects of it are, yes.

170 Q. And that was basically the argument that Reverend Paley was making?

A. Yes, that's correct.

171 Q. You considered Reverend Paley to be making a scientific argument?

A. Yes, I do. I'm sorry, let me just qualify this. In his book Natural Theology William Paley made a number of arguments and a number of examples. Some of them were what I would consider to be good scientific arguments, some

of them I would consider to be bad scientific arguments. Some are good theological arguments, some are bad theological arguments. So he made quite a different number of claims in his book.

172 Q. And just so we can be clear on what Reverend Paley did argue in those respects, I've printed off the internet a copy of Natural Theology.

A. Oh, really? Thank you.

173 Q. It's Exhibit P-751. And Your Honor, we don't have that on our system, so if you'd like to take a copy?

THE COURT: Thank you.

174 Q. You're welcome. And Professor Behe, if you could turn to page 141 out of the, on the printed version, which you can see in the right-hand corner?

A. Yes.

175 Q. And if you go down about halfway down the page he's talking about the senses of the animals, correct?

A. Yes.

176 Q. And I don't want to read everything into the record, but we can if you feel it's necessary. He's suggesting those must have

been designed, the eye for example?
A. Let me read that so I can --
Q. Sure.
(Brief pause.)
A. He's making a sort of argument there, yes, but I'm not sure exactly how to characterize it.
Q. Okay, but he's saying, he's talking about the sense of the animals and how difficult that would be to come together, correct?
A. Yes.
Q. And then he goes on and he says, "The senses are the hardest, but other aspects of the animals, joints and muscles and the prickles on a porcupine or a hedge hog, sheeps' fleece," not quite as hard to explain as the senses, but still no good explanation for how they came together, right?
A. That's his argument, yes.
Q. And you also relate to that to plants correct? He says, "I can't really distinguish plants from animals in this respect," correct?
A. I haven't read it in a while, but I assume that's correct.
Q. I mean, if you look on, going on to the top of page 142, that's basically what he says,

right? "No less acceptable organization is found in plants than what came in animals."

A. Yes, that's correct.

Q. And then he concludes, and I think actually the way the printout here breaks up the chapter, or the chapter is actually -- no, I take that back. That is how it reads. It says, "Upon the whole, after all the schemes and struggles of a reluctant philosophy, the necessary resort is to a deity. The marks of design are too strong to be gotten over. Design must have had a designer. That designer must have been a person. That person is God." That's Reverend Paley's explanation for the formation of the senses of the animals, its physical attributes, and plant life as well, correct?

A. Yes. Reverend Paley is here making a theological argument, probably not much dissimilar to what Professor Kenneth Miller makes in his book Finding Darwin's God, referring from nature to something beyond nature, and certainly I think that's a valid form of reasoning, but it's not scientific reasoning.

Q. And when Dr. Miller did that in his book

Finding Darwin's God, he's quite careful to state that these are his personal and religious beliefs and nothing to do with science, correct?

A. I think that's what he says, and if he had said he was making a scientific argument, then he would not have inferred that the designer was God. He would have said that we see a purposeful arrangement of parts. However, we do not have the information necessary to conclude who the designer was.

184 Q. We're talking about Dr. Miller still?

A. Yes.

185 Q. And Reverend Paley doesn't make that kind of distinction, does he?

A. No, he does not. And I add that in my own testimony here I relied exclusively on his passage about the watch, which I do regard to be a very good example of inductive reasoning and one that I don't think anybody would disagree with, and -- well, I shouldn't say anybody, but most people would agree with, and that I think not even Reverend Paley would say that one would have to conclude upon stumbling across the watch that the designer was God. He would simply say that it had a designer.

Q. That is truly speculating, isn't it?
A. It is, but I think it's informed speculation.
Q. From talking to Dr. Paley?
A. No, from reading his work.
Q. Reverend Paley? Reading that book, that Natural Theology?
A. Yes. The early passages of it.
Q. But you're speculating about what he would have been thinking and how he would have broken up his arguments?
A. I am.
Q. Now, one big difference between the mousetrap, Mt. Rushmore, my keys, and my watch, and all the biological systems being described in this trial is that none of those objects or structures is alive.
A. That's correct.
Q. The term you used when talking about Robert Pennock's computer organisms, they're not flesh and blood, correct?
A. Yes.
Q. And unlike those biological systems, the keys and the watch and Mt. Rushmore, they don't reproduce or replicate, correct?

A. Yes. You have to take that into account when you're doing your reasoning about this.

193 Q. Okay. And actually Professor Pennock's organisms, they do replicate, correct?

A. Well, that's a metaphor. I do not think that they replicate in the sense of a biological organism.

194 Q. And you don't dispute that biological systems and organisms that replicate and reproduce exhibit changes from generation to generation?

A. They certainly do.

195 Q. We see it in our own children, correct?

A. Yes, we do.

196 Q. And as we discussed in the bacterial flagellum, they often have millions or in some cases billions of years to go through this process of replication of reproduction and have changes occur, correct?

A. Yes, that's correct.

197 Q. So when we try to figure out from the appearance of design in, how the appearance of design arises in biological systems, they have some opportunities to develop that don't exist for my keys or my watch, correct?

A. They certainly have properties of their own which would, you have to take into consideration. You have to take into consideration. They also have other things that you have to worry about because they can die and so on, which watches and so on don't do.

198 Q. But no longer, no matter how long my keys exist, they're not going to reproduce or replicate, correct?

A. That's right.

199 Q. And that really impairs the analogy, doesn't it?

A. I don't think so. I don't think so at all. As a matter of fact, I explicitly addressed that in Darwin's Black Box. I explicitly addressed it in other places. It certainly makes it, you certainly have to take that into consideration, but if you do and if you don't think that particular property affects the situation too much, then the reasoning continues to be the same.

200 Q. And that's your view about the phenomenon of reproduction and replication over hundreds of thousands, millions, or billions of years, depending on the organism?

A. In my paper with David Snoke one can try to calculate how those great time spans and great populations would affect the situation.

201 Q. And we've seen earlier today how that works out?

A. Yes.

202 Q. And you remember I asked you at your deposition about whether there was any specialized scientific discipline that goes into reasoning that objects we're familiar with in the world are intelligently designed. Do you remember me asking you that?

A. I think so, yes.

203 Q. And the first answer you gave me is yes, there's archaeology, right?

A. I believe I did, yes.

204 Q. And the argument that intelligent design proponents make is, you know, if the science archaeology can draw these kind of inferences about the design of objects, what's the big problem with intelligent design doing that?

A. Well, I think that the characterization would go that we see that we can infer design from physical objects. So we can argue that we can extend the induction to physical living

objects.

205 Q. Now, you're not an expert in archaeology?

A. No.

206 Q. In fact, you're not particularly familiar with what archaeologists do?

A. That's right.

207 Q. Matt, could you pull up the definition of archaeology that we got from Miriam Webster on-line and highlight that, please? And there's two definitions there. The scientific study of material remains, fossil relics, artifacts, and monuments, of past human life and activity. And second, remains of the culture of a people, and it makes sense to work with that first definition because we're talking about the scientific study, okay?

A. Yes, I see that.

208 Q. Okay, and before we delve into that definition it's obviously the case that the objects that archaeologists study don't replicate and reproduce the way biological life does?

A. Yes, that's right.

209 Q. So that's one difference, right?

A. That's correct.

210 Q. And in that definition about what the scientific study of archaeology is, and you don't dispute that as a good definition of archaeology, do you?

A. I would -- I don't dispute it, no.

211 Q. And it says the scientific study of material remains of past human life and activity. So archaeology is the science of studying a very particular designer, that's what that indicates, correct?

A. No, I think the definition is probably trying to distinguish it from the scientific study of remains of past perhaps animal life and plant life and so on.

212 Q. But the definition is very specific about the actors who it's studying?

A. Yes.

213 Q. Humans. Humans, right?

A. That's right, but of course archaeology is not the only scientific endeavor to look for science of intelligent activity.

214 Q. We're going to work with the comparison from archaeology to intelligent design. That was the first specialized science you described for me, right, Professor Behe?

A. Yes.

215 Q. Okay, so let's work with that. And so that's another distinction. Archaeology basically assumes the designer. Intelligent design says we don't know anything about who the designer is?

A. Archaeology assumes that whatever designed object they find, whatever object they can distinguish from non-designed objects, had a human designer.

216 Q. Okay, and intelligent design says nothing about who the designer is?

A. That's correct. It could be a human, it could be whatever.

217 Q. As we have discussed before, intelligent design of biological life by a human is you said implausible?

A. Well, let's make one distinction. I certainly think it's implausible that that accounts for the origin of biological features, but certainly scientists these days design lots of features by standard molecular biological methods and so forth.

218 Q. That's not what we're talking about with the bacterial flagellum, right?

A. That's correct.

219 Q. Let's discuss archaeology a little bit more. Matt, if you could pull up Exhibit 722? May I approach, Your Honor?

THE COURT: You may.

220 Q. And Professor Behe, this is a chapter from a book called Why Intelligent Design Failed: A Scientific Critique of the New Creationism. Do you see that?

A. Yes, I do.

221 Q. We're going to look at chapter 8 of that book, if you could pull up the chapter heading there? And it's titled The Explanatory Filter, Archaeology and Forensics, and it's written by somebody named Gary S. Hurd. Are you familiar with Dr. Hurd?

A. No, I am not.

222 Q. And I'm going to read to you from the contributors section, which is not part of the chapter, and if you'd like to inspect it please let me know, but it says, "Gary S. Hurd received his doctorate in anthropology from the University of California Irvine in 1976. Initially involved in medical..." --

MR. MUISE: Objection, Your Honor. It's

hearsay. I'm not sure what, again he's obviously trying to offer this for the truth. This isn't even going into any question about, he's reading about the, apparently the background of the individual who wrote this book.

MR. ROTHSCHILD: The purpose of the background is to simply identify who Mr. Hurd is, if he is someone with a background in archaeology then we're going to look at some of the propositions he asserts about archaeology and see how that squares with the inductive reasoning from what we do in archaeology to intelligent design.

MR. MUISE: As he just stated, he's reading that for the truth what's in there, that this man apparently has some expertise in archaeology.

THE COURT: Do you object to the, any mention to the, of the substance of the book?

MR. MUISE: That he -- I'm sorry, Your Honor?

THE COURT: He gets into the substance, if he gets into the, setting aside an objection to the author's credentials --

MR. MUISE: I think in a sense where we've discussed some of these other articles with similar problems, if he has specific sections he wants to go to to try to use for impeachment purposes, then I don't have an objection to that. But again it's not offered for the substance of what's in here. It's just to apparently test whatever claims that Dr. Behe has made.

THE COURT: If you're using the book not for the truth, which I suspect you're not, but for the purpose of cross examination, why should I hear the qualifications of the author?

MR. ROTHSCHILD: I think this is just background. You know, we're reading some passages from this section about archaeology and just simply putting on the record that the person who wrote this has a background in archaeology. I think this is something that Your Honor could take judicial notice of after inspection.

THE COURT: Well, but the only reason I need to do that is if it goes to the truth. You're using it as I think an appropriate mechanism for cross examination, but I don't think it's

relevant or necessary for me to hear the qualifications of the author. So I'll sustain the objection as it relates to the qualifications of the author. However, you can use the text itself consistent with my prior rulings for the purpose of cross examination.

BY MR. ROTHSCHILD:

223 Q. Professor Behe, if you could turn to page 112 of the chapter?

A. Yes.

224 Q. And going down to the second full paragraph, just highlight the first sentence or first two sentences, it say, "Archaeologists know precisely the identity of our designers," and I think that's consistent with the definition we just read, humans are the designers, correct?

A. Yes.

225 Q. And that's as we already went over one difference between archaeology and the argument for intelligent design for biological life?

A. I'm sorry, say that again?

226 Q. That's one difference between archaeology and the argument for intelligent design?

A. Yes, that's the difference.

Q. Then it says, "The archaeologists know their fundamental needs, "meaning the fundamental needs of humans, and that's another difference between archaeology and the study of biological, the argument for intelligent design for biological life?

A. And by that do you mean food, shelter, and water and stuff like that?

Q. Among other things, yes. We know quite a bit about what humans need, correct?

A. Yes, we have a lot of information on humans.

Q. In the case of this unnamed intelligent designer we don't know these things, correct?

A. That's correct.

Q. There are variable materials, that would be another example of the difference between archaeology and the argument for intelligent design of biological life?

A. That would be one difference, yes.

Q. And their range of means to manipulate those materials, that would be another difference, wouldn't it?

A. Again yes, that would be a difference.

Q. And we know what humans can physically do

and also we know something about technological methods of different periods of time, correct?

A. We certainly do, yes.

233 Q. Okay, and all that we don't know about this intelligent designer, correct?

A. That's correct.

234 Q. And just go on, it say, "Our close kin and we ourselves are the designers, and physics, chemistry, geology, and engineering provide our knowledge of their materials and means." So we have all this information from other scientific disciplines that tell us what we can and can't do, correct?

A. We have that information, yes.

235 Q. And not so for the intelligent designer, correct?

A. That's correct. But it is certainly if I might just clarify, if an archaeologist had gone to the moon and found an object there with which was familiar, he would realize it was designed and he would have much less certainty about who the designer was.

236 Q. But archaeologists are involved in human design, so --

A. So he would have to conclude it was a

human, is that correct?

237 Q. Not necessarily, Professor Behe.

MR. MUISE: Object. I believe counsel just testified.

238 Q. It seemed like so much fun I wanted to.

THE COURT: We will strike that comment, stating the objection.

239 Q. If we go to page 114, and if you can highlight the first sentence in the second full paragraph, the full paragraph? It says, "The second difficulty is that unlike ID, archaeology draws upon a vast literature of direct observational studies called ethnography, and what that means is that we have actually seen humans make many of the objects that archaeologists look at, correct?

A. Yes, that's certainly true, and in induction there's always some similarities and some differences, and in some cases it's less and in some cases it's more.

240 Q. And I take it you're considering this is another difference, we never saw God make the bacterial flagellum or any other intelligent designer, correct?

A. We have not observed the design of the

flagellum.

241 Q. And then it says and we have an established base of replication, experimental archaeologists can understand that to mean we can actually look at an object we find out in the field and we can see, we can try it ourselves, could we make it with what we understand the material implements to be at the time that this appears to be from. We can do that, right?

A. All of those are useful things to know, but they're not necessary.

242 Q. Okay, but that's a way you can actually test your conclusion that the object you're looking at, for example a dug out stone that, you know, could be used as a bowl but it's not obvious, you can actually try it out, could a human make that bowl, could he make it with bronze, maybe with bronze or steel, we could try that, right?

A. We could try that, and if you found that the human could not, then you would -- at least a human of that period or that civilization, then you would look on to a different designer. You would not conclude that that object was designed then.

243 Q. Now that's another thing that the intelligent designer, the little dug out bowl, that's another thing we then attribute to the designer?

A. I'm sorry?

244 Q. If you ruled out humans, you're saying this little dug out bowl is, you would then attribute it to the --

A. No, I'm saying if an archaeologist ruled out the most likely designers around the object that he was examining or she was examining, and if it was sufficiently complex that he was confident that it was designed, then he would look to other designer, perhaps some other civilization, some nomadic people coming through or some such thing. If it was complex enough what he would not do is conclude that since the subjects, the human subjects in the area could not do that, that it was not designed.

245 Q. But in any event this is another difference, we can test whether humans could make these archaeological objects, but even with modern technology most biological systems we cannot recreate in a lab, right?

A. Yes. They are beyond our ability to

design.

246 Q. So if the strength of an inference depends on the similarities, this is a pretty weak inference, isn't it, Dr. Behe?

A. No, I disagree completely. Again if something showed strong marks of design, and even if a human designer could not have made it, then we nonetheless would think that something else had made it. Lots of science fiction movies are based on scenarios like that, and again the, I think the similarities between what we find in designed objects in our everyday world and the complex molecular machinery of the cell have actually a lot more in common than do explosions we see on earth such as cannon balls and so forth and the explosion of an entire universe, and that induction seems to have been fairly successful in trying to explain some features of the world. So I think it's not at all uncalled for to make a similar induction in this case.

247 Q. Science fiction movies are not science, are they, Professor Behe?

A. That's correct, they are not. But they certainly try to base themselves on what their

audience would consider plausible within the genre, so they can offer useful illustrations at some points, for some points.

MR. ROTHSCHILD: I have no further questions, Your Honor.

THE COURT: All right. We'll go back to redirect.

REDIRECT BY MR. MUISE:

248 Q. Good afternoon, Dr. Behe.

A. Good afternoon, Mr. Muise.

249 Q. I want to start off here with a bang, a big bang. If we could draw your attention back to Plaintiff's Exhibit 722, P-722, Why Intelligent Design Fails, I just want to revisit that was described as the second difficulty, comparing archaeology with intelligent design. And it says --

A. I'm sorry, what page is that?

250 Q. I'm sorry, page 114.

A. 114? Yes.

251 Q. It say, "Archaeology draws upon a vast literature of direct observational studies, ethnography, and established space replications, experimental archaeology," again drawing of the analogy of the Big Bang. Dr. Behe, is it your

understanding that those who theorize on the Big Bang drew on direct observational studies and established base of replications of universes exploding?

A. No, I think there were no examples of that previously.

252 Q. Do they in fact rely on and reason to explain a natural phenomenon occurrences that were actually created by humans such as explosions by fire crackers and cannon balls and that sort of thing?

A. Yes, that's my understanding they extrapolated from things of our common experience to things well beyond our common experience.

253 Q. And that was to explain a phenomenon in nature?

A. Yes.

254 Q. Sir, you testified on direct and again here on cross that you take issue with some of the aspect of Pandas, the Pandas book correct?

A. Yes.

255 Q. And Pandas was written in 1993?

A. That's correct.

256 Q. A relatively old textbook I believe you

would acknowledge for a biology, correct?
A. Yes.
257 Q. We heard testimony in this trial from Dr. Miller that he took issue with a portion of his 1995 biology text that was written by his co-author and which he personally edited. You weren't a co-author on Pandas, is that correct?
A. No, I wasn't.
258 Q. Were you asked to review the entire book?
A. No. Just the section that I wrote.
259 Q. And that was the section on blood clotting?
A. Yes, that's right.
260 Q. And is that within your expertise as a biochemist?
A. Yes, it is.
261 Q. Now, on your direct you referred several times to a biochemistry book by Voet and Voet. Do you recall that?
A. Yes.
262 Q. And are you familiar with this book?
A. Yes. I use it in my biochemistry course.
263 Q. And I believe on direct you testified that it's a widely used book by biochemists, is that correct?
A. Yes, it's considered perhaps the leading

text in the field.

264 Q. Does it contain sections that you take issue with?

A. A couple, yes.

265 Q. Yet you still use it, you believe it has value for your biochemistry class?

A. Yes. Yes, I do.

266 Q. Now, despite these issues you have with Pandas, then what is the value of making Pandas available for students for their review?

A. I think while it's certainly not a perfect book, it gives students a different perspective on viewing the data. It allows them to separate the data from the interpretation of the data. It gives them an opportunity to view whether the data are the strong support for a particular theory that theory's adherents might claim against the claims of another group which might view the strength of the evidence differently. It also gives them the opportunity to view the weaknesses of a particular explanation, the strength of those weaknesses if you might say that, or the seriousness of those weaknesses versus as seen by the supporters of the theory and as seen by another group.

Q. Sir, does intelligent design require a common descent be shown to be, incorrect?
A. No, it does not, as I argued in my book Darwin's Black Box.
Q. Is there a unanimity amongst biologists regarding all aspects of Darwin's theory of evolution?
A. No, there aren't.
Q. Is intelligent design any different in that respect?
A. No. Everybody has his own opinion.
Q. Does intelligent design continue to develop?
A. Yes, it does.
Q. It's developed since 1993?
A. Yes, it has.
Q. Sir, are you still presently being invited to academic institutions to present to them your scientific arguments on intelligent design?
A. Yes, I still get lots of invitations.
Q. In fact, did you have to decline one such invitation on account of this trial?
A. Yes, I did.
Q. What was that?
A. Well, I was going to go over to the Frije

University, which is spelled F-R-I-J-E, Frije University in Amsterdam, to participate in a discussion and debate on the topic of intelligent design with a Dutch biochemist.

275 Q. Does this Dutch biochemist have any prominence in that area?

A. Yes. I am told, although I don't know him myself, I am told that he's a member of their national science academy and a very well regarded person, a person who is convinced of a Darwinian point of view.

276 Q. I don't know if you still have in front of you, sir, an exhibit marked P-726, it was the tulip and dandelions article?

A. Yes, I have it.

277 Q. And what book did this article appear in or magazine of some sort?

A. This appeared in a magazine called "Books and Culture," which is a publication which is put out by an organization called Christianity Today which publishes a magazine by that name.

278 Q. So you're writing for a Christian audience in this case?

A. That's correct.

279 Q. Were you seeking just to present scientific

arguments in this article?

A. No, because this was a magazine directed towards a religious group with which I share many common ideas. I took those common ideas as background for writing this material.

280 Q. Matt, can I ask you to bring up P-718? If you go to page 696, can you highlight the indented passage which begins with "many religious persons"? Can you bring that up for us, please? Dr. Behe, do you have a copy of P-718?

A. I'm trying to find it.

(Brief pause.)

A. Lot of stuff up here.

281 Q. Let me, can you read the screen? Why don't we work it that way.

A. Yes, I can do that.

282 Q. This is a section from your article Reply To My Critics, is that correct?

A. Yes, I found it here. What page is that now?

283 Q. 696.

A. Yes.

284 Q. Would you please read the section that I have highlighted?

A. It says, "Many religious persons, including many scientists, hold that God created the universe and the various processes driving physical and biological evolution, and that these processes then resulted in the creation of galaxies, our solar system, and life on Earth. This belief, which sometimes is termed 'theistic evolution,' is not in disagreement with scientific explanations of evolution. The National Academy of Sciences, 1999, Citation 7."

285 Q. Do you know if that was published in some sort of a theological or religious journal, this statement by the National Academy of Sciences?

A. No, this was in their publication dealing with this issue entitled Science and Creationism where in my opinion they offer their view that theistic evolution is a good religious stance if one wishes to disagree or if one wishes to avoid conflicts with evolution.

286 Q. So the national Academy of Sciences is taking a position or making a statement with regard to religion?

A. The way I interpret it is this is that the National Academy of Sciences is making this view known to teachers to which the publication is

directed, that this, the way I read it that this is a good religious stance to avoid conflicts with evolution.

287 Q. Matt, if you could close that down and keep that page though, please? If you could highlight that section I believe you were directed to, it starts with "by intelligent design I mean to imply," if you could find where that section is, "beyond the simple laws of nature"? Dr. Behe, you were asked about the section, the sentence says, "By intelligent design I mean to imply design beyond the simple laws of nature." By stating that, are you claiming that intelligent design requires the actions of a supernatural creator?

A. No, not at all. As a matter of fact I'm claiming quite less than what the National Academy says is consistent with scientific explanations of evolution, that is that God created, the universe, and the various processes driving physical and biological evolution. In this section I'm actually contrasting my view to those who argue for design saying that they think that the universe and its laws were designed. I'm saying that in fact a design that

I'm proposing actually is a, is something that would require perhaps less of an ability of a designer.

288 Q. Now, you were asked about publications of intelligent design articles in peer reviewed journals, and I believe you testified on direct that you considered that article that you wrote with David Snoke as being an article that is about or reference with regard to intelligent design in a published peer reviewed, or how would you describe that article?

A. Well, I would describe it as an article that certainly speaks to the question of intelligent design and the limits of unintelligent processes.

289 Q. Did you submit an article with scientific research advancing the argument for intelligent design to a peer reviewed science journal?

A. I'm sorry?

290 Q. Have you submitted an article with scientific research making the argument for intelligent design to a peer reviewed journal, science journal?

A. I was invited to submit such an article by the Quarterly Review of Biology.

291 Q. Let me -- was there an article that you sought to submit to the Journal of Molecular Evolution?

A. Yes. That was an article which was essentially a condensed version or a truncated version of the one which eventually became the article which was published in Biology and Philosophy where I essentially had the section deals with Russell Doolittle's claims on the blood clotting system.

292 Q. Did the Journal of Molecular Evolution accept the article that you submitted to them?

A. No, it was not accepted.

293 Q. What was your understanding as to why they didn't accept it?

MR. ROTHSCHILD: Objection. Calls for hearsay.

MR. MUISE: Your Honor, I'm asking for his understanding.

MR. ROTHSCHILD: If it's going to be based on communications he received from --

THE COURT: You can't say what someone told you. It can be what your understanding of the reason is. So to that extent I'll overrule the objection. Do not quote or repeat what someone

told you, only what your understanding of why it was rejected, consistent with Mr. Muise's question.

THE WITNESS: My understanding is that it was rejected because it was being judged on the non-scientific implications of what I have published in Darwin's Black Box rather than in the scientific argument I was making in the text of the manuscript itself.

BY MR. MUISE:

294 Q. So your understanding was that it was rejected not based on the science that you were arguing in the paper itself?

A. That's right.

MR. ROTHSCHILD: Your Honor, I'm going to move to strike. I think that calls for speculation, or is speculation.

THE COURT: Well, I take it as such. You know,I understand, that's more argument than it is an objection. It's his understanding, and his understanding I think necessarily calls for some conjecture or speculation, so I'll not strike it. I understand your argument.

MR. MUISE: And Your Honor, without getting into the hearsay of it, I want to ask him what

he bases that understanding on, not go into whatever the content of it is, but for example he received letters back from the editors, maybe had conversations with the editors, we won't go into the details of that, but what is the basis for is understanding. It's not mere speculation.

THE COURT: If you want to walk it right up to the line you can try, but if he's going to refer to a hearsay document and a hearsay statement, then it's going to be objectionable and stricken.

MR. MUISE: I understand, Your Honor.

THE COURT: If you want to walk the line, walk the line, but we'll see what happens. Proceed.

BY MR. MUISE:

295 Q. Dr. Behe, what is the basis of your understanding of the, as you described the reasons for rejecting that article?

A. The basis for my understanding is impressions I formed from communications with the people running the journal.

296 Q. Now, you've been asked questions again about reasons why you don't present what you

describe as sort of your more complex argument on intelligent design to some of the professional society meetings, that's the professional side that you belong to, correct?

A. Yes.

297 Q. Did you ever attempt to present your scientific arguments for intelligent design at these, at at least one of these society meetings?

A. Yes, I did once.

298 Q. How was it that you attempted to do so?

A. I sent a letter co-written with Professor Miller to our respective scientific societies proposing that a symposium be held at the national meetings on the topic of evolution and intelligent design.

299 Q. Did the society accept that proposal?

A. We received an acknowledgment that the letter had arrived, but that we never, or I never heard any further communication.

300 Q. Now, the article that we have been talking about, this one you wrote with David Snoke, and it's marked as P-721, and if you have it in front of you, sir, if you look up on the screen?

A. Yes.

Q. That's in fact the article you wrote?
A. Yes, that's it.
Q. Now, Mr. Rothschild asked you a question indicating that this article itself implies irreducible complexity, but in fact it doesn't use the term irreducible complexity, correct?
A. That's correct.
MR. ROTHSCHILD: Mischaracterizes the question. I was clear that, I asked whether it argues clear irreducible complexity, he answered that, "I think it does, but it doesn't use the word." I wasn't talking about implying.
THE COURT: Is this a semantical problem?
MR. ROTHSCHILD: Well, I think it may be, Your Honor, unless we're about to go right back to some hearsay that was attempted on Monday or Tuesday.
THE COURT: In what way?
MR. ROTHSCHILD: That there was going to be testimony about what Professor Behe was told about use of the term irreducible complexity. You ruled that was hearsay, and I'm concerned that's right where we're going again.
MR. MUISE: Your Honor, I'm not going to ask him about any of the statements. I'm asking him

why it was that he took it out and what his understanding was why it had to be taken out, and again he brought this up again on cross examination. That's why I'm going back to revisit it, because the implication of the question is that look, he's not writing anything with this term irreducible complexity and there's a reason for that, and I think we should be able to have an opportunity to go back and explore the reason why the term irreducible complexity is not in there.

MR. ROTHSCHILD: Your Honor, I think the answer his understanding is going to bring in is hearsay. I think also Professor Behe has made it clear during cross examination that he used this paper as arguing for irreducibly complexity without the words, so I think that's already in the record.

THE COURT: Wes, read that question that you have back.

(The record was read by the reporter.)

THE COURT: I'll take the answer that's correct, and I won't strike it on the record. I really think you're imposing a preventative objection with respect to what may come

hereafter, so I'll overrule the objection or a motion to strike as relates to, "That's correct," the answer to the question is on the record is on the record, and I heard it and I can't unring that bell. At this point it goes to weight and the argument you have. You can proceed, with the understanding that again if you get into a hearsay area, in an area you think it's hearsay, then you --

MR. ROTHSCHILD: And, Your Honor, I think the way the question was formulated and the answer he received characterized my question as opening the door. I understand, I'm not concerned so much with striking the answer as that the characterization that my question has opened the door, and so to that extent I object to that characterization for the purposes of argument.

THE COURT: All right. I understand your argument. You can proceed.

MR. MUISE: I'm going to try to walk up that line again, Your Honor.

BY MR. MUISE:

303 Q. Dr. Behe, why is it that you did not include that term irreducible complexity in

that paper?

*** REPORTER NOTE: ANSWER STRICKEN AT THE DIRECTION OF THE COURT ***

MR. ROTHSCHILD: Move to strike, Your Honor. I think this is back-door hearsay.

MR. MUISE: Same as before, Your Honor. It's his understanding and I'm going to ask him what is the basis for it. It's not going to be speculation.

THE COURT: You didn't ask him that, and that's not the answer he gave. He talked about specific communications. I think it is back-door hearsay under those circumstance. I don't want to put too fine a point on this, but that answer did involve what I would consider to be back-door hearsay. His understanding is one thing. He just referred specifically to a communication he received. What's the difference between that and reading the communication?

MR. MUISE: There's a big difference. If you ask somebody why did you do something, because I was told not to do it, that doesn't mean that you were told not to do it comes in as the basis. It explains why he does it. For

example, I'm in a theatre, somebody yells, "Fire!" I run out. I get asked why did you run out of the theatre, somebody yelled fire. Is that being shown to prove that a fire occurred? No. It's being used to explain why he did something. You can't fully explain, he can't fully explain why it was he didn't include that term unless he gets to the point that I submitted it, I got a reply back, and I was told to take it out, so I took it out. That was the reason why I took it out.

THE COURT: You can say that his impression from the communication he received is that he shouldn't include it, and I'll take it at that, but if he says that, well, we're not going to --

MR. MUISE: Your Honor, we can move on.

THE COURT: I'll sustain the objection as it relates to what I consider to be back-door hearsay in his answer, and I'll strike that answer as it involves the contents or an attempt to get the contents of the communication in.

BY MR. MUISE:

304 Q. Dr. Behe, you were asked a question about a, I guess a criticism of your claims that were advanced by Dr. Robert Pennock. Do you recall

that?

A. I'm not quite sure which one you're referring to.

Q. I believe it was a claim in your article Reply to my Critics, it was a discussion about some asymmetry and Dr. Robert Pennock --

A. Yes.

Q. -- had made some claims?

A. Yes.

Q. We can't be talking over each other. If we could get this right, I know you've been on a long time and I understand that. Sir, why was it that you haven't gone back to address that issue?

A. Because I did not regard it as very important. I regarded it more as a philosopher's objection, which did not really consider the biological situation, and therefore while it was interesting from one point of view, it was really not all that important to the argument.

Q. Sir, did you make a mistake on your argument with regard to the blood clotting system?

A. Not that I'm aware of, no.

309 Q. You were asked some questions about the immunity system, and Mr. Rothschild gave you some books and articles and piled some papers on top of you. Do you remember that?

A. I do remember that, yes.

310 Q. And you claim that you didn't find these examples all that persuasive, correct?

A. That's right.

311 Q. And you stated because you didn't believe they provided the detailed rigorous answers to how the immunity system can arise by random mutation and natural selection, is that a fair characterization?

A. Yes, that's right, and that's the issue that directly involves intelligent design, the issue that I focus on.

312 Q. Do you see that at all as a problem with a singular focus on natural selection as a mechanism?

A. Well, I certainly do. As I have tried to make clear, I think often times people who assume the truth of a theory often times overlook missing elements of it, even very important missing elements, and I could refer back of course to the ether theory of light.

So in my view much of the, much of the misunderstanding is that many people assume that natural selection must have caused these changes somehow, and so they take evidence which does not directly impinge on that as evidence for the mechanism of natural selection itself, wherein my view it does not support the mechanism.

313 Q. Sir, you were asked a question about a statement in Pandas regarding what evolution predicts regarding the molecular clock, and you said that was not accurate, correct?

A. That's right.

MR. ROTHSCHILD: Objection, Your Honor. It's mischaracterizing the question. He did, Professor Behe did concede that something in Pandas was not correct, but it wasn't on the point of the molecular clock. Mischaracterizing the question and the answers.

THE COURT: Yes, I don't remember that to be. I don't remember that to be a point that was testified to by the witness.

314 Q. Dr. Behe, do you remember questions, it was you addressing some slides that Dr. Miller had regarding biochemical similarities, and perhaps

I was imprecise in describing it as the molecular clock. But I was referring to I believe the molecular distances or protein sequencing, is that correct?

A. The protein sequence differences I think one can say.

315 Q. And there was a statement about what evolution would predict that Pandas had made that you just described as being not accurate, is that correct?

A. I think so, yes.

316 Q. Do you recall that?

A. To tell you the truth, I'm not exactly sure exactly what I said.

317 Q. Was there a section, there's a statement in Pandas regarding the protein sequences and an argument as to what evolution should predict or should show, and I believe you had said that that wasn't an accurate statement in Pandas, correct?

A. Yes.

318 Q. And why do you believe it's not an accurate statement?

A. It's not accurate in Pandas because it's my view that Darwinian evolution does not regard or

does not predict anything strongly whatsoever regarding protein sequences, that much like predictions of embryo structures and other things that it rather accommodates itself post hoc to what has been discovered by experimental science, but does not strongly predict anything.

319 Q. Leaving aside that error that you identified, is the section on biochemical similarities that you testified to yesterday, and I believe you talked about protein sequencing and the molecular clock, is that aspect of Pandas accurate?

MR. ROTHSCHILD: Objection. Outside the cross, Your Honor. He's already testified to it on direct. I didn't ask him on cross about whether the molecular clock section was correct or not.

MR. MUISE: That's fine, Your Honor.

THE COURT: I don't think he got into the molecular clock on cross.

MR. MUISE: That was just in that same section, Your Honor.

THE COURT: He's called you on it. I'll sustain the objection. It is outside the area of cross.

BY MR. MUISE:

320 Q. Matt, could I ask you to please do one more exhibit for me? Exhibit 718, page 697. Can you highlight the paragraph which begins "in fact"? Dr. Behe, my understanding is this is an experiment that you proposed to be able to falsify your claims or your ideas, is that correct?

A. Yes, that's right.

321 Q. I believe as we have gone through in your direct testimony, it's one that could readily be conducted in the laboratories that we have today?

A. Well, it would take effort, but it could be conducted, yes.

322 Q. And Mr. Rothschild had asked you whether any intelligent design proponent has actually tried to do this experiment, is that correct?

A. That's right.

323 Q. Sir, has anyone from the National Academy of Sciences ventured to take up this challenge to refute your claim through experimental evidence?

A. Not to my knowledge, no.

324 Q. Has anyone from the AAAS taken up your

challenge to refute your claim through experimental evidence?

A. No, not to my knowledge.

MR. MUISE: No further questions, Your Honor.

THE COURT: All right. Recross?

RECROSS BY MR. ROTHSCHILD:

325 Q. A couple of questions. Professor Behe, Mr. Muise asked you whether you had submitted any articles of scientific research supporting intelligent design to peer reviewed journals, and I think the answer you gave was that subset of Reply To My Critics, correct?

A. I don't think I replied to that question when he phrased it that way. I think I asked him to repeat or something, and I think he rephrased it another way.

326 Q. And that's exactly what I want to clarify. That submission which discussed Dr. Doolittle's work, that didn't have any scientific research?

A. It had scientific research. It was not my research, but it was indeed scientific re search.

327 Q. Discussing for example Bugge's research and the like and Dr. Doolittle?

A. Bugge.

328 Q. My helpers have said "buggy" to me, and now I'm going buggy. One more set of questions, you're familiar with Henry Morris and Duane Gish?

A. Yes.

329 Q. They are creationists? They would acknowledge, that correct?

A. Sure.

330 Q. And Dr. Ken Miller, you heard him testify the first couple of days of trial?

A. Yes -- no, just the first day. I wasn't --

331 Q. And on that first day he testified that he had in fact debated Duane Gish and Henry Morris, correct?

A. Both of them? I don't remember.

MR. MUISE: Your Honor, this is outside the scope of redirect.

MR. ROTHSCHILD: I can lay a foundation if you'd like, Your Honor. I'm about ready to wrap up.

THE COURT: Well, he's called you now, so I'll allow you to lay a foundation.

BY MR. ROTHSCHILD:

332 Q. Professor Behe, Mr. Muise asked you on

redirect about the fact that you're still presenting to scientific conferences -- or not conferences, but to scientific departments and the like?

A. Yes.

333 Q. And continuing to debate intelligent design?

A. Yes.

334 Q. Okay. And you heard Dr. Miller testify about debating at least one of the two creationists we just identified?

A. That's correct.

335 Q. And the fact that Dr. Miller has debated them, that doesn't make creationism a science, does it?

A. That's correct.

MR. ROTHSCHILD: No further questions, Your Honor.

THE COURT: All right. That will conclude the testimony of Dr. Behe. You may step down, sir. We thank you.

MR. ROTHSCHILD: Your Honor, I see you're looking at the list of exhibits. I'm going to make a suggestion that we pause and maybe pick them up tomorrow or another day.

THE COURT: Yes, I think if we could get, because of the number of exhibits, why don't you see if you can reach an agreement, and I'll let you recite that, I think that would be a good idea because it would be a long process indeed to go through this. And what I'll do is I'll defer to you to, I'll defer to Mr. Muise, to his witness, to start the process with respect to the introduction of the defense exhibits, and then we'll go from there. So maybe as we start the day tomorrow we can do that, and you can tell me what exhibits, what I'm interested in obviously is what exhibits can go in by stipulation without objection and what exhibits we have to argue over, if that works for everybody.

MR. MUISE: I'm not going to be in court tomorrow, Your Honor, myself, but we have a pretty fair list, and I'm sure co-counsel can handle it.

THE COURT: I'll bet Mr. Gillen can handle that.

MR. MUISE: He can handle anything.

MR. GILLEN: I'll try to.

MR. ROTHSCHILD: And I have no objection if

it waits until a later day, Friday morning or whatever, Friday afternoon.

THE COURT: Yeah, I think we've gotten behind a little bit, so we'll just have to -- let's get it in this week, but if we don't have to lead off with it tomorrow, we have a shortened session as we all know tomorrow, and if we want to devote time to witnesses rather than arguing over exhibits, that's certainly fine with me.

MR. MUISE: Your Honor, may we have a moment?

THE COURT: Certainly.

(Brief pause.)

MR. GILLEN: Your Honor, there's one other hatter which may or may not be a concern. I suggest we talk about it with the other side before we bring it to your attention. Okay?

THE COURT: Why don't you approach.

(Side bar at 4:10 p.m.)

THE COURT: Let me ask you a question, let me ask you first, who do you have for tomorrow?

MR. GILLEN: That's the nature of Mr. Muise's concern. We intended to start Rich Nilsen the way I told Eric I would.

However, we do have an expert coming in, that was in now for Friday. That would cause us to break up the direct of Nilsen, which I think we can.

THE COURT: The expert is not going to get here until Friday?

MR. MUISE: No, he's been here since last night, Your Honor.

MR. GILLEN: So we want to get him in and get him out of town.

MR. ROTHSCHILD: I have absolutely no objection.

MR. GILLEN: So we just wanted to alert you to the fact that we don't want to waste time. So we'll start Nilsen tomorrow, but then Dick Carpenter, we'll try to get him on.

THE COURT: But I don't understand, why don't you start with -- you want to start with Nilsen and then stop him?

MR. GILLEN: Yes.

THE COURT: You don't want to start with the expert?

MR. GILLEN: Right. We'll start him on Friday and get him done and then get him out of town, because he needs to get --

THE COURT: You're going to get him done on Friday though?

MR. MUISE: He's a short expert from our perspective.

THE COURT: All right. Well, so I'm just wondering why you don't want to start him tomorrow.

MR. GILLEN: He just got in town and he needs to catch up.

MR. MUISE: I've been here all day today.

THE COURT: I was confused.

MR. ROTHSCHILD: We've spent a week here.

MR. MUISE: He's been scheduled for Friday all along, but because Dr. Behe went longer than --

THE COURT: It's been big fun for me, too. Let me ask you this. I have another issue, and the reason I wanted to do a side bar, I don't want to get into this too deeply in front of everybody, I got an amicus brief from the Discovery Institute. Now, it's been objected to by the plaintiffs. There's a problem here that I've created. They've contacted my chambers, and we sort of tacitly if not directly opened the gate for the filing of the brief.

Not that we would accept it, you know, I have too many balls up in the air, and didn't look at my own rules when I did that. Now, having looked at the brief briefly, it contains an expert report which is highly problematic, and I'm trying to figure out how to deal with that, because my intention is to strike it. I'm not going to take an expert report in a brief.

MR. MUISE: Well, Your Honor, I mean, amicus is often times, in many of the cases with amicus briefs that courts accept are ones that are sent by professional organizations or medical organizations and are in fact really expert reports. I mean, they may not be as --

THE COURT: Well, we all know the problem that we had in this case with Mr. Dembski, and you know --

MR. GILLEN: He's not here to circle around back to you.

THE COURT: That's the problem.

MR. MUISE: I understand, but I mean it's the weight that you're going to apply to it, Your Honor, the point of making --

THE COURT: But I am distressed by the fact

that there is an expert report attached to the amicus brief. You know, if I open the gate and I tell him I want an expert report, that's one thing. So I guess, you know, before we all start a plethora of filings, I'm telling you that to give it some thought, we can talk about it tomorrow, I could accept some argument on it if everybody wants to argue, and I can haul in counsel for the Discovery Institute.

They have local counsel, in fact I think it's Mr. Boyle's firm who's local counsel, and we can go through that, have Mr. Boyle have another unhappy day in this court and have his head handed to him, or I can just summarily strike it. I'm not going to take an expert report. Now, there's yet another one that you have objected to, I can do that on the submissions and that's not a problem, but I'm interested, do you want to put a dog in that hunt?

MR. GILLEN: You know what, judge? Amicus at the trial court level, as rare as it is, you're going to have a full record, that's been our position from the beginning. The only thing I would suggest is like you say, you open the

door now and who knows who's going to show up with a brief, and I don't --

THE COURT: No, I didn't, I opened the door I think only to them.

MR. GILLEN: Right.

THE COURT: And I've corrected the error now and they're going to have to follow the rule to the extent that there are future submissions. I didn't open the door for anybody.

MR. GILLEN: Exactly. No way.

THE COURT: But I take the blame, but in this particular case this large missive which I received in as much as it has an expert report on it, I don't want to denigrate the Discovery Institute to the masses here.

MR. GILLEN: Right.

THE COURT: But I'm just not going to receive it. I understand what you're saying, Mr. Muise, sometimes you do, but not having had the dispute about Mr. Dembski --

MR. GILLEN: Yes, I want nothing to do with that. I want nothing to do with not showing up here when he was an expert, and then trying to sneak something?

THE COURT: All right.

MR. ROTHSCHILD: Your Honor, just to make it clear, I mean it's not just any expert report. It's actually the expert report filed as rebuttal by Dr. Meyer in this case.

THE COURT: Oh, I understand.

MR. ROTHSCHILD: It sounds to me like, you know, it sounds like there's a basis to strike that doesn't need to deal with the opportunity you gave them.

THE COURT: There's no question about that. You know, it's no harm, no foul. But the fact that I was too charitable and they gained without a motion doesn't mean that I can't summarily strike it. I might have done it sua sponte even absent your motion. Think about it. If you change your position, let me know at the outset tomorrow. Otherwise I think that what I'll do is, I don't know what I'll do as to the first submission. That does not contain any expert report. I think -- is that the 85 scientists --

MR. ROTHSCHILD: Yes, Your Honor.

THE COURT: -- submission? You may have other grounds, we'll let that be briefed and we'll go from there, I'm not going to pre-judge

that, but I'm vexed by the fact that I've got, you know, another massive submission, and in the meantime their counsel has been e-mailing Liz, and as a judge told me and co-counsel years ago, "We're not running a law school here," and the substance of the question is how do we do this, and you know, we're not going to get into that.

MR. GILLEN: It's plain from the first brief they don't know.

THE COURT: Yes. I had Liz e-mail back and say get a copy of the local rules and we got a non sequitur e-mail back which basically said again how do we do this.

MR. MUISE: Your Honor, I just want to be clear. We've had nothing to do with the filing of these.

THE COURT: Oh, I'm not --

MR. MUISE: We're not trying to back-door anything. Understand, I just want to make it clear.

THE COURT: I'm not saying you did, and that's why I don't want to blow this around the courtroom and imply that you did. I don't believe that you did, I certainly understand that, but at the same time, you know, I'm not

going to have, you know, some rogue cavalry come riding in here at the last instant. We're not going to have that.

MR. GILLEN: Agreed, Your Honor.

THE COURT: All right. So we will start then with Dr. Nilsen tomorrow, and I want to say that before we break that everybody understands, we'll take the expert, interrupt his testimony by bringing in counsel for --

MR. MUISE: 2:00 tomorrow, Your Honor?

THE COURT: Yes.

MR. GILLEN: Thank you, judge.

(Discussion held off the record.)

(Side bar concluded at 4:18 p.m.)

THE COURT: All right, the purpose of the discussion at the side bar so that everybody understands was to talk about scheduling, because we've gotten ourselves, perhaps behind would be the wrong word, but we're a little bit out of order. We will have as you all know a shortened day because of some matters that I must attend to tomorrow in the morning and through lunch hour.

So we'll start at 2:00 p.m. tomorrow, and so that everybody is clear we will start with

superintendent Nilsen's testimony at 2:00 p.m. tomorrow, and by agreement of counsel it is possible that that testimony will be interrupted by a defense expert at some point on Friday, assuming that the testimony may not conclude tomorrow. We will have a full trial day on Friday. Anything else we need to put on the record before we adjourn for today? Hearing nothing, I thank you for your cooperation. We'll see you tomorrow, we'll see you at 2:00 p.m. tomorrow.

(Court was adjourned at 4:19 p.m.)

Tammy Kitzmiller, et al. vs. Dover Schools

4:04-CV-02688

Trial Day 12, Afternoon Session

19 October 2005

I hereby certify that the proceedings and evidence are contained fully and accurately in the notes taken by me on the trial of the above cause, and that this copy is a correct transcript of the same.

s/ Wesley J. Armstrong

_____

Wesley J. Armstrong

Registered Merit Reporter

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