

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

1	TAMMY J. KITZMILLER, et al.,	:	
2		:	
3	Plaintiffs	:	
4	vs.	:	Case Number
5		:	4:04-CV-02688
6	DOVER AREA SCHOOL DISTRICT;	:	
7	DOVER AREA SCHOOL DISTRICT	:	
8	BOARD OF DIRECTORS,	:	
9	Defendants	:	

AFTERNOON SESSION

TRANSCRIPT OF PROCEEDINGS
OF BENCH TRIAL

Before: HONORABLE JOHN E. JONES, III

Date : October 24, 2005

Place : Courtroom Number 2, 9th Floor
Federal Building
228 Walnut Street
Harrisburg, Pennsylvania

COUNSEL PRESENT:

ERIC J. ROTHSCHILD, ESQ.
WITOLD J. WALCZAK, ESQ.
THOMAS B. SCHMIDT, III, ESQ.
ALFRED WILCOX, ESQ.

For - Plaintiffs

PATRICK T. GILLEN, ESQ.

For - Defendants

Lori A. Shuey, RPR, CRR
U.S. Official Court Reporter

I N D E X

WITNESSES

<u>For - Defendants:</u>	<u>Direct</u>	<u>Cross</u>	<u>Redirect</u>	<u>Recross</u>
Dr. Stephen Fuller		3	102	112

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1 THE COURT: It appears Mr. Walczak is up.
2 You may commence cross-examination.

3 MR. WALCZAK: Thank you, Your Honor.

4 CROSS-EXAMINATION

5 BY MR. WALCZAK:

6 Q. Good afternoon, Professor Fuller.

7 A. Good afternoon.

8 Q. What does heuristic mean?

9 A. Heuristic? Well, it's from the Greek --
10 it's a method of discovery. It's something that helps
11 you imagine situations so that you can come up with
12 hypotheses in science. It's a term that's widely used
13 in the philosophy of science. It originates with
14 William Whewell, who is another author of one of those
15 Bridgewater treatises that I mentioned earlier.

16 Q. So it relates to teaching and understanding?

17 A. That's right, the context of discovery,
18 correct.

19 Q. And you would agree with me that the Dover
20 four-paragraph statement that's read to the students
21 is not altogether clear?

22 A. Yes, that's true, it's not altogether clear,
23 yes.

24 MR. WALCZAK: Your Honor, may I approach?

25 THE COURT: You may.

1 BY MR. WALCZAK:

2 Q. I show you what's been marked as Plaintiffs'
3 Exhibit 131. Have you seen this document before?

4 A. Yes, I have.

5 Q. And you know this is the four-paragraph
6 statement that's now being read to the students?

7 A. Yes, I do know that.

8 Q. You would agree that saying that a theory is
9 not a fact conflates the scientific use of the term
10 "theory" with the colloquial understanding that it is
11 simply an opinion or a hunch?

12 A. Let me see. Where are you referring to
13 here?

14 Q. If you would look at the second paragraph
15 under Number 4 there.

16 A. Okay.

17 Q. It reads, Because Darwin's theory is a
18 theory, it continues to be tested as new evidence is
19 discovered. A theory is not a fact.

20 A. Yes.

21 Q. And so that is somewhat misleading. Is that
22 correct?

23 A. What do you mean exactly?

24 Q. Well, evolution is -- first of all,
25 evolution is both a theory and a fact. Correct?

1 A. Yes, I have said that, yes.

2 Q. And in science, a theory is never going to
3 turn into a fact. Is that correct?

4 A. Yes, that is correct.

5 Q. And this suggests to students that a theory
6 could become something more, could become something
7 more like a fact and that would be more reliable?

8 MR. GILLEN: Objection, Your Honor. Calls
9 for speculation.

10 MR. WALCZAK: Your Honor, it's supposedly
11 within his expertise.

12 MR. GILLEN: It's not within his expertise.
13 He hasn't been qualified in education. Even if he was
14 an expert, he can't speculate as to how a student
15 would see it.

16 THE COURT: Well, he's not been offered as
17 an expert in the education realm, but I think it's a
18 fair inquiry based on the latitude that I gave during
19 his testimony in chief. So I'll overrule the
20 objection. He can answer the question.

21 THE WITNESS: I actually think it's more
22 ambiguous what's going on there. I mean, you seem to
23 imply that there is this kind of gradation going from
24 theory to fact. I kind of read it a bit more
25 straight. You know, namely, a theory is not a fact,

1 it's something else.

2 BY MR. WALCZAK:

3 Q. Professor Fuller, do you recall having your
4 deposition taken?

5 A. Yes, by Mr. Rothschild.

6 Q. And that was on June 21st, 2005?

7 A. That's correct.

8 Q. And you were under oath?

9 A. Yes.

10 Q. And you swore to tell the truth?

11 A. Yes.

12 Q. And you did tell the truth?

13 A. I hope so.

14 MR. WALCZAK: Your Honor, may I approach?

15 THE COURT: You may.

16 THE WITNESS: Thank you.

17 BY MR. WALCZAK:

18 Q. I'd ask you to turn to Page 111, please.

19 A. Okay.

20 Q. And on Line 6, Mr. Rothschild asked you, A
21 theory is not going to graduate into a fact; right?
22 And the answer was, Right, exactly, exactly. No, I
23 mean, I do think there is -- that the tone of the
24 statement is a little confusing. I mean, so I'm
25 agreeing with Miller on that point. Did I read that

1 correctly?

2 A. Let me just see this for a second. But what
3 I'm agreeing with Miller on is, I can understand why
4 he sort of sees it that way. I wasn't necessarily
5 saying that I had some definitive view about what the
6 statement meant, but rather that I was sympathetic
7 to -- you know, I could see where he was coming from
8 in finding this problematic. That's all I was saying.
9 I can, you know, understand him.

10 Q. Well, let me direct your attention to the
11 first line on Page 111 where it says -- and this is
12 your answer, and certainly you can refer back at the
13 question. But let me just read that portion of your
14 answer. It says, But I was agreeing with the fact
15 that the statement did look, did seem to want to
16 denigrate something by being called a theory as if
17 being a fact would be the really epistemically
18 significant thing. Right? Did I read that correctly?

19 A. You read it correctly, yes.

20 Q. And so that's what you testified to in your
21 deposition on June 21st?

22 A. Well, I did say that, but I don't know. I
23 mean, I didn't necessarily -- I mean, I guess I was
24 just kind of following through Miller's thinking and
25 sort of rethinking his thoughts and thinking it did

1 make sense what he was saying.

2 But I wasn't making -- I mean, keep in mind
3 this was the first time I had actually seen this Dover
4 statement during the deposition to any great extent,
5 so I was kind of forming opinions as we went along.

6 Q. So that would be very similar to what the
7 students are experiencing, because they're only seeing
8 the statement for a snapshot?

9 A. Yeah, but, I mean, the students don't come
10 into it with the kind of baggage Miller and I have.

11 Q. And you also have expressed a problem in the
12 fourth paragraph. Matt, if you could put 131 back on,
13 please. If you could highlight the fourth paragraph,
14 please. And you said you thought this was kind of a,
15 quote, downbeat ending, because what we should be
16 doing is trying to encourage students that science is
17 fascinating and interesting, not that it has to --

18 A. Can you direct me to something in the
19 deposition?

20 Q. Well, I'm asking you a question.

21 A. Oh, sorry. I thought you were quoting me.

22 Q. Well, I may be.

23 A. Well, if you are, can you tell me where it
24 is? Because I'd like to know --

25 THE COURT: The way it works, Doctor, just

1 so that we're all clear, Mr. Walczak will ask you a
2 question. If he sees the need to access your
3 deposition testimony, then he'll do that following the
4 question, but he's not bound to relate the question to
5 the deposition testimony in the first instance.

6 So I'll ask Mr. Walczak, since we've cleared
7 up that confusion, why don't you restate your
8 question. And this is not a question that is
9 necessarily grounded -- it may or may not be -- in
10 something that you said at the deposition, and it's
11 not a question that calls for you to access the
12 deposition testimony. So with that, Mr. Walczak, if
13 you would resubmit your question.

14 MR. WALCZAK: Thank you, Your Honor.

15 BY MR. WALCZAK:

16 Q. I really am just interested in your
17 testimony today, Professor Fuller. So you think that
18 the ending of this four-paragraph statement is
19 downbeat because what we really should be doing is
20 trying to encourage students that science is
21 fascinating and interesting and not that it has to be
22 taught because of the standards. Is that correct?

23 A. Yeah. But if this is going to be the only
24 way they can actually end up allowing intelligent
25 design as a possibility, then one lives with it. I

1 wasn't a party to how this statement was drawn up. So
2 there's a sense in which I don't know what the
3 alternative possibilities were of which this was the
4 one that we now see before us.

5 Q. Well, certainly they could have said
6 something about how science is wonderful and marvelous
7 and you should take great joy in studying this,
8 instead of simply saying, we have to study this
9 because it's in the standards?

10 A. I guess unless I knew what the options were
11 in terms of what alternative versions of this
12 statement were on the table, I could make a clear
13 judgment on that, because it seems to me at the end of
14 the day what is good about the statement is that it
15 actually does present an alternative that's available.
16 And if this is the only way they could have done it,
17 then, you know, so be it. I'm not a party to the
18 discussion.

19 Q. And so you would presume that the purpose of
20 reading this four-paragraph statement is to provide
21 information to students about this alternative of
22 intelligent design, and this is a way of promoting
23 open-mindedness about science and exploring different
24 views, I mean, really everything that you talked about
25 in your direct testimony today?

1 A. Well, that's -- I assume that's what's going
2 on, yes.

3 Q. But you're also aware, are you not now,
4 that, in fact, under the Dover policy, students are
5 not allowed to ask questions about this statement or
6 about intelligent design and teachers are not allowed
7 to discuss it? Is that your understanding?

8 A. I do know that, yes.

9 Q. And so you would, in fact, agree with me
10 that this gag on any discussion really defeats this
11 purpose of promoting open-mindedness and discussion?

12 A. Well, it seems to me that, again, what are
13 the alternatives here? And the gag is not stated in
14 the statement.

15 Q. But you are aware that there is no
16 discussion allowed?

17 A. Yes.

18 Q. And that gag on discussion, knowing that it,
19 in fact, exists, defeats the heuristic purpose of the
20 statement. Wouldn't you agree with that?

21 A. If you mean defeat like completely
22 obliterates it, no.

23 Q. Could I ask you to turn to Page 140 of your
24 deposition, please. If you could read quietly,
25 perhaps to yourself, 140 to 142.

1 A. Okay.

2 Q. I'm not trying to trick you here, Professor
3 Fuller.

4 A. I hope not. Where should I start on 140?

5 Q. Actually, you could start on 141 on Line 20.
6 It says, Superintendent Dr. Richard Nilsen has
7 directed that no teacher will teach intelligent
8 design, creationism, or present his or her or the
9 board's religious beliefs.

10 Well, let me just help you out. And then
11 the next question is, How is the objective you
12 discussed accomplished if students are simply being
13 told, here's intelligent design, but then they're not
14 allowed to discuss it? And then your answer is, I
15 didn't -- well, I'm endorsing this view -- I'm not
16 responsible for this view. I don't, at least as far
17 as I understand, I don't endorse this. Now, did I
18 read your answer correctly there?

19 A. Let me see if I understand what I said.
20 What I'm saying is, this is not how I would handle it.
21 That's what I'm saying. But, you know, I'm not there.
22 And if this is the only way this statement -- it's
23 going to make this possibility available, it's going
24 to come about, then one lives with it. But I'm just
25 saying, you know, this is not what I would do, but I'm

1 not part of the Dover School Board.

2 Q. Okay. Let's go back to Page 140 and Line 17
3 so we know exactly what --

4 A. 140, Line -- Page 140, Line 17?

5 Q. Right.

6 A. Right, okay.

7 Q. And this is what you're talking about
8 promoting in Dover. It says, Namely, we're talking
9 about how to take science forward in the future, and
10 it seems to me we sort of betray kind of the
11 open-mindedness that we take to be -- you know, we
12 take science to exemplify as a hallmark of our
13 civilization if we don't -- you know, if we don't
14 present students with the possibility that science is
15 something that's still very open for very fundamental
16 forms of inquiry. And the best way to do that is to
17 show how one might study something like life starting
18 with fundamentally different assumptions from the
19 taken-for-granted view, because otherwise we're stuck
20 with just teaching dogma science. Did I read that
21 correctly?

22 A. Yes.

23 Q. And then back on Page 142, Mr. Rothschild
24 asked you, So the Dover policy of simply making
25 students -- of telling students about intelligent

1 design but not -- then not allowing them, allowing the
2 teacher to talk about it doesn't accomplish the
3 objective? And your response was, It defeats the
4 purpose, yes, that's true, yes. Now, did I read your
5 answer correctly?

6 A. Yes. But defeats does not mean obliterate
7 here. It certainly undercuts the impact that it can
8 have, but it's better than nothing.

9 Q. You're not a scientist, Professor Fuller?

10 A. I am not a scientist, that's correct.

11 Q. You're not an expert in any of the
12 biological sciences?

13 A. No, I am not.

14 Q. You're not an expert in any of the natural
15 sciences?

16 A. No, I am not.

17 Q. You're not a paleontologist?

18 A. Certainly not.

19 Q. You're not an expert in education?

20 A. No, not, I guess, by the standards you would
21 consider an expert.

22 Q. Do you consider yourself an expert?

23 A. I don't know what passes for an expert in
24 education these days.

25 Q. You don't consider yourself an expert?

1 A. I don't, I don't, no.

2 Q. And you don't consider yourself an expert in
3 the subdiscipline of science education, either?

4 A. Well, we're getting closer, we're getting
5 closer to my expertise. You know, again, I try to be
6 modest and I won't claim expertise.

7 Q. And you haven't spoken to any of the school
8 people in Dover about how the policy is being
9 implemented?

10 A. No.

11 Q. You're not an expert on irreducible
12 complexity?

13 A. No, no, I'm not.

14 Q. You're not an expert on Professor Behe's
15 views?

16 A. I never claim to be an expert, no.

17 Q. And you're not an expert on William Dembski?

18 A. Not an expert.

19 Q. Or on complex specified information?

20 A. Not an expert.

21 Q. And you're not familiar with the textbooks
22 that are actually being used?

23 A. Not familiar.

24 Q. So you're not familiar with the Miller and
25 Levine biology textbook?

1 A. No.

2 Q. And you're not familiar with *Of Pandas and*
3 *People*?

4 A. No.

5 Q. So you're only an expert on the nature of
6 science?

7 A. Yes. That's a pretty big thing here,
8 though.

9 Q. I'm sorry, I don't mean to minimize or
10 denigrate it in any way.

11 A. You could even split it up into three
12 different disciplines, and I would have three
13 expertises.

14 Q. Well, we may come back to that. Now, you're
15 a philosopher by training?

16 A. Yes.

17 Q. So you approach this issue philosophically?

18 A. Yes.

19 Q. And philosophers want to keep a more open
20 mind than scientists on the rules of science?

21 A. I don't know if I'd exactly put it that way,
22 but let's say -- I certainly warm to that suggestion.

23 Q. So philosophers don't want to close down
24 alternative assumptions, including an appeal to the
25 supernatural?

1 A. That's correct. I mean, again, not all
2 philosophers, but I would say that that is kind of
3 the -- you know, would be a majority view if you
4 looked at most philosophers.

5 Q. But as you said in your expert report, most
6 philosophers have resisted the charms of naturalism?

7 A. That's true.

8 Q. And you say this is an allergic response to
9 guild-like arrogance of scientists?

10 A. Yes.

11 Q. And you agree with that?

12 A. Yes, I do. I am aware I did say that, yes.

13 Q. But do you agree with that proposition
14 today?

15 A. Yes, yes, I do.

16 Q. And you think the National Academy of
17 Sciences, as they have defined science, is too
18 dogmatic in its commitment to methodological
19 naturalism?

20 A. Is the National Academy of Sciences
21 officially committed to methodological naturalism?

22 Q. I believe it is.

23 A. Okay. Certainly would be too dogmatic, yes.

24 Q. And you want to open up the discussion a
25 little bit more than it currently is in the scientific

1 community?

2 A. That's right.

3 Q. I believe in your direct testimony you
4 called yourself a philosophical naturalist?

5 A. Yeah, yeah.

6 Q. And said that, in fact, you're still
7 committed to philosophical naturalism?

8 A. That's right.

9 Q. And then said maybe it's a little bit
10 surprising that that's the case, given that you're
11 here testifying in support of intelligent design?

12 A. Yes.

13 Q. But as I understood your definition of
14 philosophical naturalist, it was that everything can
15 be understood in terms of natural science?

16 A. In the natural world and ultimately in the
17 terms of natural science, yes. Sort of along the
18 lines I was endorsing here with testability and so
19 forth.

20 Q. And personally, you believe that evolution
21 is a better explanation of biological life than
22 intelligent design?

23 A. At the moment, yes.

24 Q. But you're dissatisfied with that
25 explanation?

1 A. Well, you might say as a philosopher I'm
2 professionally dissatisfied with all explanations that
3 claim to be final. And so there is going to be a
4 special suspicion sort of drawn toward the
5 taken-for-granted theories in any given discipline.

6 Q. So you're not saying that intelligent design
7 is the correct or the better explanation for
8 biological life?

9 A. No, I'm not. I'm certainly not. They're
10 not -- they haven't developed it enough to really be
11 in a position to make any kind of definitive judgment
12 of that kind.

13 Q. So you think it's just worth something that
14 we should be pursuing further?

15 A. Well, yes, and that there have to be some
16 conditions put in place in order for it to happen.
17 It's not just going to happen spontaneously.

18 Q. So is it fair to say that you're involved in
19 this case more because you're interested in the
20 philosophical value of intelligent design challenging
21 the current scientific dogma, sort of the loyal
22 opposition, than being committed to the doctrine of
23 intelligent design itself?

24 A. Well, I don't know. I want to see where
25 intelligent design goes, frankly. I mean, you know,

1 again, it's hard to make a judgment. But I do think
2 that when you get to a situation in science where one
3 theory is very dominant and so taken for granted that
4 people don't even feel they have to, you know, defend
5 it anymore, then that's kind of bad news
6 epistemologically, just generally speaking. And it's
7 that, in itself, that's worthwhile to support some
8 kind of opposition candidate, in a sense. But what
9 that opposition candidate does, you have to give it
10 some time to develop, and then you can make further
11 judgments whether it was a good bet or not.

12 Q. So intelligent design here is the loyal
13 opposition to evolution?

14 A. Well, but it's a very specific kind, it
15 seems to me. I mean, it's not just, you know, the
16 negation of evolution.

17 Q. Now, intelligent design is committed to
18 introducing supernatural causation into the current
19 science paradigm. Is that correct?

20 A. That's not exclusively what it does, but
21 it's certainly open to that.

22 MR. WALCZAK: May I approach, Your Honor?

23 THE COURT: You may.

24 BY MR. WALCZAK:

25 Q. I've given you a copy of your rebuttal

1 expert report in this case.

2 A. Yes.

3 Q. If you could turn to Page 18 of your report,
4 please.

5 A. Yes.

6 Q. And if you could look about halfway down
7 that paragraph, there's a sentence that starts, Third.
8 And I'm going to read it. It says, Third, ID's
9 rejection of naturalism and commitment to
10 supernaturalism does not make it unscientific. Did I
11 read that correctly?

12 A. Yes.

13 Q. And that's your view?

14 A. What do you mean that's my view?

15 Q. This is from your expert --

16 A. Yes, I understand. But, what, is this like
17 my total view about what ID is committed to? No, it's
18 not my total view. But I do believe that ID is open
19 to supernaturalism. But it's not exclusively
20 supernatural, it's just with respect to this
21 dichotomy.

22 Q. But it has a commitment to supernaturalism
23 and to introducing it into the scientific community?

24 A. I mean, a commitment doesn't necessarily
25 mean it's trying to impose it, but rather that it's

1 something that it is open to and, in fact, is
2 distinctive about it.

3 Q. Could you turn to Page 10 of your report.
4 And the first sentence -- actually second full
5 sentence in that first paragraph, On the one hand, it
6 is true that ID wishes to pursue research that might
7 eventuate in design-based explanations of the natural
8 world that fall afoul of the naturalistic
9 presuppositions of contemporary biological science.
10 Did I read that correctly?

11 A. Yes.

12 Q. So if it's not naturalistic, what else could
13 it be?

14 A. Yes, but the thing here is, what
15 supernaturalistic boils down to -- I mean,
16 supernaturalistic just means not explainable in the
17 naturalistic terms. Right? It means involving some
18 kind of intelligence or mind that's not reducible to
19 ordinary natural categories. Okay?

20 So that's the sense in which I'm using
21 supernaturalistic. I'm not saying, you know, they're
22 committed to ghosts or something. See, I'm not sure
23 what exactly -- but that's how I -- I understand
24 supernaturalistic in this fairly broad sense.

25 Q. As not natural?

1 A. Well, as not naturalistic, given what we
2 take to be naturalistic now in science. Because in
3 the past, things that we now consider to be
4 naturalistic in science were not regarded as such.
5 Right? So that's the basic point I'm trying to make
6 here.

7 Q. But we're clear on what natural is?

8 A. Excuse me?

9 Q. We're clear on what natural is of this
10 world?

11 A. Yeah, in terms of -- well, of this world,
12 nature as it is understood within the context of
13 natural science.

14 Q. And here you're talking about broadening
15 that definition beyond natural causation and to
16 supernatural causation?

17 A. Yes. And what I'm talking about there, yes,
18 is going beyond the taken-for-granted categories. I
19 mean, this has happened in the history of science and
20 does periodically, where things that people regard as
21 occult forces and things that cannot be observed and
22 are not detectable by ordinary experimental means,
23 people postulate them, use them as the basis for
24 research, and eventually you do come up with something
25 that can then be assimilated within naturalistic

1 science.

2 Q. And the intelligent design proponents don't
3 give much detail about who the supernatural actor, the
4 designer is. Is that correct?

5 A. No.

6 Q. They don't give much detail?

7 A. No.

8 Q. In fact, they don't give any detail?

9 A. Well, right. I mean, in terms -- no, I
10 guess not.

11 Q. Okay. So the goal is -- let me see if we
12 can agree on it -- is to have such a supernatural
13 designer considered as a possible scientific
14 explanation. Is that comfortable with you?

15 A. Can you say that again?

16 Q. The goal is to have a supernatural designer
17 considered as a possible scientific explanation?

18 A. Well, it's intelligent designer, and I think
19 the idea here is that intelligence is something that
20 cannot be reduced to naturalistic causes. Right? So
21 there is a sense in which the idea of intelligence
22 itself is taken to be somewhat supernatural here.

23 Q. To allow for this extra-natural or
24 supernatural causation, we have to change the ground
25 rules of science as they are currently understood by

1 the scientific community. Is that correct?

2 A. Well, actually, I don't think they have to
3 change the ground rules of science. Pennock thinks
4 they do.

5 Q. You don't think that you're --

6 A. I think the ground rules of science are
7 indifferent on this metaphysical question of
8 naturalism versus supernaturalism. This is why I
9 think it's kind of a red herring in a way to talk
10 about this in relation to science.

11 Q. If you would turn to Page 115 of your
12 deposition. Now --

13 A. Wait a second.

14 Q. Well, let me just point out to you that this
15 is part of a multi-page answer that you gave in
16 response to a question on 113 --

17 A. Okay.

18 Q. -- about what you meant about the
19 fundamental differences in orientation between
20 evolution and intelligent design. And I want you to
21 focus on the very end of your answer on Page 115
22 starting on Line 8.

23 A. And so you -- go ahead. Sorry. I was just
24 trying to guess your question.

25 Q. Well, let me read your answer here. And so

1 that -- you're talking about giving different
2 orientations as to what science is about. You're
3 talking about intelligent design.

4 And then you say, So that would obviously
5 involve changing the ground rules of science because
6 there is a sense in which you would change the scope
7 of what you're talking about, because if what you're
8 really concerned about is the nature of intelligent
9 design, as such, with life being one example of that
10 as opposed to being interested in the nature of life
11 regardless of whether it's intelligent design or not,
12 right, you're going to have to have different ways of
13 pursuing the inquiry. Did I read that correctly?

14 A. Yes, you did. Do you want me to explain?

15 Q. No. And then the next question was, Okay,
16 so you -- you agree that intelligent design aspires to
17 change the ground rules of science? And your answer
18 was, Yeah, I think that's fair to say. I think -- I
19 think -- they certainly -- yes. Did I read that
20 correctly?

21 A. Yes, you read it correctly.

22 Q. You would agree that methodological
23 naturalism has worked well for science?

24 A. Yes.

25 Q. And you would agree that it's largely

1 responsible for most of the scientific progress we've
2 seen?

3 A. No.

4 Q. If you could turn to Page 175 of your
5 deposition. I'm going to read your answer there
6 starting on Line 23. You say, I'm not doubting that
7 methodological naturalism has worked for science and
8 that it's largely responsible for lots of science that
9 we've got, maybe even most of that we've got. Did I
10 read that correctly?

11 A. Yes. I said maybe.

12 Q. So intelligent design aspires to change this
13 ground rule of science, this methodological
14 naturalism?

15 A. Methodological naturalism is not a ground
16 rule of science.

17 Q. A commitment to natural causation is a
18 ground rule of science?

19 A. Well, actually, the ground rule of science
20 is testability. Okay? I mean, so -- and that is
21 metaphysically neutral.

22 Q. And how do you test the supernatural?

23 A. Well, that's an age-old question, but there
24 have been paranormal experiments. And even when one
25 was thinking about gravity as a potentially occult

1 force, right, that was the big challenge of the
2 experimental imagination, to figure out how can we
3 measure something that seems to be kind of, you know,
4 invisible, you know, kind of impalpable.

5 So this is, in fact -- this is, in fact, one
6 of the prompts to develop very subtle kinds of
7 experiments and get at things in indirect ways. So
8 the idea that something is supernatural doesn't
9 preclude it from any kind of experimental testing. It
10 just makes it kind of tricky, and it often takes a
11 long time to do it.

12 Q. Well, how would you design a test to test
13 for the intelligent designer, the affirmative test?

14 A. Well, I take it that -- and this refers to
15 what I meant of the sense in which I meant changing
16 the ground rules of science. I think this business of
17 design -- a design detector, you know, the kind of --
18 the sort of filter argument that Dembski gives,
19 because at the moment the design detector is used
20 primarily as kind of a device for detecting fraud and
21 things like that in artifacts, whereas, in fact, what
22 I was thinking about when I said the remark about
23 changing the ground rules of science was to actually
24 say this kind of design detector thing could be
25 expanded as a tool in science more generally. And

1 that's the kind of thing that I had in mind. I didn't
2 mean changing the ground rules of science in the sense
3 of replacing our normal modes of testability with
4 entirely new modes of testability.

5 Q. Well, but if you allowed intelligent design
6 into science, you would lead to a different conception
7 of science. Is that --

8 A. I think what is true is that the sciences
9 would be reconfigured so that the notion of design
10 would be taken as kind of a literal unifying concept,
11 where design in the sense of organisms and in the
12 sense of artifacts and in the sense of computers or
13 whatever would be treated as design all in the same
14 sense, which is not how they tend to be treated now.
15 Biology is sort of studied as one subject and the
16 study of artifacts and technology is something else.

17 Q. But it would change the conception of
18 science?

19 A. Well, it would change the way -- yes, it
20 would probably blur the distinction, for example,
21 between life and nonlife more substantially. There
22 would be a lot of implications, I think. But it
23 wouldn't change testability. It wouldn't change the
24 fundamental kind of methodological principles of
25 science which are indifferent to the naturalism,

1 supernatural distinction.

2 Q. And is it fair to say that you think the
3 National Academy of Science's definition of a
4 scientific theory is too static and too restrictive?

5 A. And this is -- remind me again. I'm sure
6 I've commented on it, but can you remind me what that
7 definition is?

8 Q. Yes. The definition is a well-substantiated
9 explanation of some aspect of the natural world that
10 can incorporate facts, laws, inferences, and tested
11 hypotheses.

12 A. Yes, I believe I objected to
13 "well-substantiated" in that definition.

14 Q. And your counter-definition is a little bit
15 different, and it would be an explanatory
16 conception --

17 A. Can you direct me to a page? You just want
18 to tell me? Okay.

19 Q. An explanatory conception of a range of
20 phenomena and also that could serve as a basis for a
21 research program, for an empirical research program.

22 A. Yes. That sounds good, yeah.

23 Q. So you would remove "well-substantiated" to
24 allow not-so-well established theories like
25 intelligent design?

1 A. Well, otherwise, I don't see how any new
2 theory would ever get a foothold in this definition.
3 No theory is born well-substantiated.

4 Q. Now, you've spent a fair bit of your time on
5 this particular point about how difficult it is under
6 the current -- I think you would say overly dogmatic
7 naturalistic paradigm of science for new theories to
8 break in.

9 A. May I correct you? I think that's a
10 mischaracterization. I don't think that naturalism
11 is, itself, the kind of -- the sort of stultifying
12 atmosphere. I think it has actually more to do with
13 sort of sociological, political, and economic factors
14 when it gets right down to it.

15 Q. But as I understood your testimony -- and,
16 please, you know, correct me if I'm mischaracterizing,
17 because I certainly don't intend to do that. I mean,
18 as I understood it, you're saying that scientists are
19 not really open to different ways of thinking such as
20 presented by intelligent design?

21 A. In fact, yes. In fact, as -- this is, in a
22 way, engrained in their training, and it's something
23 that is very well remarked upon in our literature.
24 It's called normal science. It's the whole idea of
25 thinking within a paradigm. That's, in fact, how you

1 make advances in very narrow, specialized technical
2 fields. So, in a sense, it has a heuristic value
3 itself, this kind of narrowness, that makes people
4 unopen, but it isn't everything.

5 Q. Right. But I also recall you saying that
6 scientists are not the person -- not the people to
7 best define science because they're within that
8 paradigm and can't think outside of it?

9 A. Well, that is certainly -- yeah, that's
10 certainly true.

11 Q. And your point is that what you need are
12 philosophers of science and sociologists of science
13 and scientific epistemologists to really be able to
14 define what science is properly?

15 A. Yes. And it's happened. It's happened in
16 legal cases like this, for example. The definitions
17 are taken from philosophers. And it's very common
18 practice, yes.

19 Q. And you also said that the scientific
20 association, I think you called them -- you said the
21 elites at the National Academy of Science make it
22 difficult for new theories to be accepted?

23 A. Well, I don't know if that particular
24 organization is to be targeted in some conspiratorial
25 fashion, but I think that the way science is organized

1 generally, if you go across the professional
2 associations, the ways in which, you know, peer review
3 operates and journals, you look at the way in which
4 education takes place within science and how one gets
5 in and how one gets jobs in it, if you put that all
6 together, that does make it very difficult for new
7 ideas to catch on.

8 Q. So, in some sense, you would say there's a
9 prejudice between the scientists, the scientific
10 associations, the peer review, against new scientific
11 theories being accepted?

12 A. A prejudice in -- yes. I mean, I don't know
13 how cognitive I want to interpret that word
14 "prejudice." Again, I don't know if there's, like,
15 vendettas against particular viewpoints. But I do
16 think that the overall -- you might say structural
17 effect of all these things is, yes, to bias one toward
18 a kind of conformist position on a taken-for-granted,
19 established science.

20 Q. So it's difficult but it's not impossible
21 for new theories to be accepted?

22 A. Of course not. But it's getting harder.

23 Q. And I think, as you testified earlier today,
24 scientists are willing to accept hypotheses from
25 anywhere so long as they bear fruit experimentally.

1 Do you recall saying that?

2 A. Yes. And that's -- you know, that's, yes,
3 pretty obvious.

4 Q. So, in fact, I mean, the 20th Century and
5 the late 20th Century give us many examples of
6 theories that have been accepted within the scientific
7 community. So, I mean, you testified to
8 Dobzhansky's --

9 A. Dobzhansky, yes.

10 Q. Right. His view of really -- I mean, that
11 was the Darwinian revolution that we're talking about
12 here?

13 A. Yes. But what he did -- yes, but this was
14 done by writing a book that brought together different
15 biologists to see themselves as traveling under a
16 common rubric. I mean, it wasn't something that
17 required a large research grant or something. By
18 today's standards, it was still very much little
19 science that he was doing that had this big effect.

20 Q. But that's perfectly well accepted in
21 science today?

22 A. Yes, but he was doing this in 1937. The
23 world has changed.

24 Q. Well, how about, have you heard of the
25 theory of plate tectonics?

1 A. Sure. That was ignored for a long time.

2 Q. Absolutely. It was ignored for, what, 40 or
3 50 years before it was finally accepted by the
4 scientific establishment in the 1960s?

5 A. Well, that's right. And all along, though,
6 there were people -- there was a current of people
7 still pursuing it. So even though it was never any
8 dominant position, there was kind of a -- it wasn't so
9 discontinuous, it was just that the people who were
10 pursuing it were largely on the margins. And then
11 eventually, you know, they came to the surface as new
12 evidence and so forth came in. That's certainly true.

13 Q. Right. So there was a hypothesis, there
14 were people who were advancing this, it was not
15 accepted, not accepted, and eventually it did become
16 accepted as a theory within the scientific community?

17 A. Yes, because they did have a critical mass
18 of workers in that area who were able to pursue it,
19 even though they weren't being taken all that
20 seriously for a long time. It wasn't that, you know,
21 you had three guys doing it and then when they stopped
22 pushing it, it disappeared. There was always kind of
23 an undercurrent rumbling with regard to this theory
24 until then people caught on to it when they saw new
25 evidence arise.

1 Q. And you know about the theory of
2 transposons?

3 A. I can't say I do, I'm afraid.

4 Q. Have you ever heard of jumping or removable
5 genes?

6 A. Yeah, I have. Obviously I'm not an expert
7 in biology, but I have heard of them.

8 Q. And are you familiar that that's a theory
9 that was first proposed in the 1950s and has now
10 largely been accepted by the scientific community as
11 of the 1980s?

12 A. Right, but I bet there have been people
13 working on this for a while in between.

14 Q. Right.

15 A. Well, that helps.

16 Q. Right. So they spent 30 years, and finally
17 they convinced the scientific community that this was
18 a valid theory that should be accepted?

19 A. And these people had academic posts who were
20 pursuing this. Right? So there was an institutional
21 substructure that was supporting this minority
22 research. And that's a very important part of the
23 story. Right? Because if there is no institutional
24 substructure, right, if there are no, you know, people
25 studying this and following it even though they know

1 most people don't believe it, it's never going to have
2 a chance to reach that point.

3 Q. And you've heard of prions or prions?

4 A. Yeah, I've heard of them.

5 Q. And those are -- I guess advances the cause
6 of mad cow disease, they're replicating proteins?

7 A. Yes. They're very famous in my country,
8 Britain.

9 Q. I'm sorry to hear that. My sympathies.

10 A. We invented them.

11 Q. We have great steaks here in Harrisburg.

12 A. Oh, I've been having one every night, let me
13 tell you.

14 Q. And, again, that was a theory that was
15 advanced and eventually accepted by the scientific
16 community in the 1990s?

17 A. Of course, yes.

18 Q. And one last example, the theory that ulcers
19 are actually caused by bacteria?

20 A. Yeah, yeah. Sure, yes, I am familiar with
21 that.

22 Q. Because for a long time people thought that,
23 in fact, ulcers were caused by stress, which led to
24 stomach acid, which led to the ulcers. And now, in
25 fact, this year's 2005 Nobel prize in medicine went to

1 the people who advanced that theory.

2 A. Yes.

3 Q. So there are scientific theories that can
4 sort of crack the scientific establishment and become
5 accepted?

6 A. Sure, but these people have -- you know,
7 they have institutional settings where they can
8 continue the research. Right? And I'm sure -- I
9 mean, with the plate tectonics there was some
10 hostility, but with some of these others, I wonder if
11 there was really, you know, any kind of ideological
12 hostility to the pursuing of this alternative
13 research. Because in this sense, it isn't quite the
14 same as intelligent design, which I take it to be the
15 point of the examples.

16 Q. Well, I mean, the point is that you can get
17 accepted in the scientific community. It takes time,
18 it takes work, it takes research, and it takes effort
19 to convince your colleague in the scientific
20 community, but it can be done?

21 A. Yes. And it takes institutional presence,
22 and it takes the ability to be able to have students
23 who follow up on leads that you make, and those
24 students have to be able to get jobs and so forth.
25 There are all those things, too. They're part of the

1 sociology.

2 This is why the history and philosophy and
3 sociology of science need to be considered together.
4 You can't just separate out, as it were, the
5 philosophical status of these theories and see how
6 they change over time. You have to look at the
7 institutional structures.

8 Q. But intelligent design hasn't convinced the
9 scientific community yet, has it?

10 A. Well, there's a chicken and egg question
11 here. Right? I mean, you have to put the
12 institutional -- you have to enable these people to
13 actually have enough exposure, right, so that they can
14 get people interested in the idea. And so people who,
15 let's say, don't start off with, you know, whatever
16 baggage they happen to have get interested in it and
17 develop it in new directions and take the idea forward
18 so it's not just seen as a kind of cultish thing. And
19 that's very important, and that doesn't happen
20 spontaneously.

21 Q. Right. It takes lots of hard work, but --

22 A. And it takes institutional opportunities.

23 Q. Right. But the work is done in the
24 scientific community, isn't it?

25 A. Well, yeah.

1 Q. I mean, it's not done in the public schools
2 of this country?

3 A. Well, if we're talking about getting people
4 interested in this kind of idea -- see, intelligent
5 design has certain disadvantages that these other
6 theories don't have, and that's the kind of
7 ideological resistance to it because it's seen as, you
8 know, overly religious and all the rest of it. And so
9 there is a kind of -- in that sense, there is a kind
10 of prejudice that makes it more difficult for a theory
11 like that to get some kind of leverage.

12 Q. Now, that's your speculation?

13 A. Yes, indeed. I mean, that's why I don't
14 think the analogies work quite the way you're saying.

15 Q. But we know that the National Academy of
16 Sciences has specifically said that intelligent design
17 should not be taught in public school science classes?

18 A. I know. I've read that statement, yes.

19 Q. And the American Association for the
20 Advancement of Science, you're familiar with that
21 organization?

22 A. Well, of course.

23 Q. And that is the largest organization of
24 scientists?

25 A. I know.

1 Q. And they have taken a similar position that
2 says intelligent design is not science and doesn't
3 belong in a science classroom?

4 A. I know.

5 Q. Right?

6 A. I know. Okay.

7 Q. So intelligent design has not convinced the
8 science community, and you're here saying, well, you
9 know, we've got to sort of fertilize the field and
10 make sure that it can be taught to students so that
11 they're more open-minded to this?

12 A. Well, it seems to me that you're not going
13 to -- it's not going to happen otherwise. And --

14 Q. You know, I'm not aware of transposons or
15 plate tectonics being forced on students before it was
16 accepted by the scientific community.

17 A. Yes, but those are much more specialized
18 kinds of entities and theories and so forth that
19 exist, roughly speaking, within established
20 disciplines. Here we're talking about a sort of
21 scientific movement, as it were, that part of what it
22 wants to do is to reconfigure the face of science.
23 Right?

24 And, in a sense, the neo-Darwinian synthesis
25 covers a lot of ground. It's a very sort of big,

1 broad picture. And, in a sense, intelligent design is
2 offering a kind of competitor at that level. So it's
3 a different ball game from what you've been
4 describing.

5 Q. And what you're saying is that it's got no
6 chance in the scientific community, the only chance it
7 has is for a federal judge to order that it be taught
8 in the schools?

9 A. Look, I'm --

10 MR. GILLEN: Objection to the
11 characterization of his testimony, Your Honor.

12 THE WITNESS: Well, I am going to disagree
13 with it. Sorry.

14 THE COURT: The best thing you can do when
15 Mr. Gillen objects is not answer the question.

16 THE WITNESS: Sorry, sorry.

17 THE COURT: That doesn't help him. So we'll
18 let that pass and we'll move on.

19 MR. GILLEN: I'll withdraw the objection.

20 THE COURT: I guess so. Mr. Walczak can
21 proceed. That's known as the too-helpful witness.

22 THE WITNESS: Sorry.

23 THE COURT: But who you're helping depends
24 on your answer. Mr. Walczak, you may proceed.

25 BY MR. WALCZAK:

1 Q. You talked earlier in your direct
2 examination about a revolution in science not being a
3 big deal. Right? Or not as -- I'm sorry, not as big
4 a deal as, say, a social or political revolution.

5 A. Yes.

6 Q. And you mentioned Lavoisier and Newton and
7 Mendel and Dobzhansky. And these were all sort of
8 scientific revolutions that you pointed to?

9 A. Yes.

10 Q. And what you're telling this Court is that
11 we need that kind of revolution because the dominant
12 paradigm is not letting intelligent design in?

13 MR. GILLEN: Objection to the
14 characterization of his testimony. I don't believe he
15 said any such thing.

16 THE COURT: Well, the question is couched in
17 terms of you're telling us, and he can deny that. I
18 don't know that that's an accurate characterization of
19 his testimony, but the way the question is phrased,
20 it's a fair question on cross, so the objection is
21 overruled. You may answer that.

22 THE WITNESS: I deny that. Let me see how
23 to put it.

24 BY MR. WALCZAK:

25 Q. What was the point of talking about

1 revolutions?

2 A. Well, the thing here is that you need to
3 have revolutions when, in fact, the science is
4 dominated by one paradigm. Right? That's the
5 presupposition of a revolution, that the only way in
6 which you're going to actually get any kind of
7 alternative viewpoint is by displacing the dominant
8 one, because you're not imagining science to be a
9 naturally pluralistic field.

10 You don't need a revolution if you had a
11 kind of pluralistic playing field of science where you
12 have lots of different theories of roughly equal
13 stature. But, rather, in this case, with the
14 neo-Darwinian synthesis, you have one very dominant
15 theory that monopolizes all the resources.

16 In the normal course of things, you would
17 just have to wait for that theory to kill itself
18 before another one is going to come about.

19 Q. And so you are saying that, in fact, there
20 is a very dominant theory today, neo-Darwinian
21 synthesis, and in order to crack that, in order to
22 allow intelligent design in, you need this revolution?

23 A. Well, that's not quite -- I mean, I think
24 that if intelligent design proves its merit, that
25 will, in fact, happen. But I'm not actually saying --

1 I'm not calling for a revolution at the moment.

2 What I am saying is, I would like to see
3 some opposition thinking to force students to think,
4 well, look, is this the only way of looking at the
5 nature of life? Maybe there's an alternative way of
6 looking at it. And not only that, it's a way that can
7 fit in with other things, such as other things that
8 are designed.

9 I mean, thinking about biology as if it were
10 like technology, which is part of the implication of
11 the sort of thing Dembski is doing, is kind of
12 interesting, and it does put a different slant on what
13 the nature of life is and actually has some precedent
14 in the history of science with regard to issues of
15 mechanism and so forth, and this is where Newton and
16 all that comes in.

17 So it's not like some weirdo theory that
18 I've just picked out of a hat. It's one where you
19 could do a nice historical backstory to.

20 Q. I want to switch gears and talk a little bit
21 about intelligent design itself. Now, you said that
22 intelligent design is a relatively young science?

23 A. In this current phase, right. It has a long
24 historical backstory, very little of which it's
25 actually appropriated up to this point. In its

1 current form, it's pretty new.

2 Q. So it doesn't have its views, its conical
3 views worked out very well on all aspects of the
4 theory?

5 A. I think that's fair to say.

6 Q. So, for instance, on the position of the age
7 of the earth, it's open-minded?

8 A. I believe so.

9 Q. And we have to wait until the science
10 develops a bit more to see where it's going to come
11 out?

12 A. I think that's right.

13 Q. And so there really aren't a lot of, as
14 you've put it, conical views about fundamental
15 principles?

16 A. No, that's right.

17 Q. And --

18 A. But there are some that are being developed,
19 that are quite clearly being developed, like the
20 complex specified information, explanatory filter
21 thing of Dembski. I think he's the one that, you
22 know, one would look for in terms of developing
23 so-called foundations, you might say, for this
24 science. So it is going on, and there is some
25 discernible shape to it.

1 Q. We'll come back to Dembski. But you've
2 earlier used the term "normal science." And that
3 would refer to the neo-Darwinian synthesis?

4 A. That's right. It's the way science is done
5 normally under the dominant paradigm.

6 Q. And you've said that ID, in fact, is in a
7 fringe area?

8 A. Yes. It's not normal science. I mean, you
9 can't have normal science until you have a paradigm
10 that's been sufficiently flushed out that you can sort
11 of talk about normal forms of research. At the
12 moment, ID is basically laying out foundations and
13 then trying to come out with some exemplary phenomena.

14 Q. Let's talk about those foundations for
15 intelligent design. I think -- would you agree that
16 ID consists primarily of the views of Michael Behe and
17 William Dembski?

18 A. That's certainly the two I associate it
19 with.

20 Q. Those are the biggies?

21 A. I would say so.

22 Q. And you would agree that both are at
23 relatively early stages of development?

24 A. Yes.

25 Q. Let's start with Dembski. Now, you say that

1 he has suggested an explanatory filter based on math
2 and statistics?

3 A. Yes.

4 Q. And he's trying to provide a probabilistic
5 space for intelligent design?

6 A. That's right.

7 Q. So he's trying to move ID out of a
8 metaphysical space and into a mathematical one?

9 A. That's correct.

10 Q. But as far as you know, he has not applied
11 this filter to explain any biological life?

12 A. No. He has done it primarily to study fraud
13 in artifacts and things like that.

14 Q. So he hasn't actually applied this to
15 biological life?

16 A. No. He's primarily a guy who develops
17 theoretical foundations. Okay? He's not a biologist,
18 he's a mathematician by training.

19 Q. And you would agree that people have
20 suggested counter-examples to his hypothesis and that
21 he's failed to address those?

22 A. Well, he has tried to address them. I mean,
23 it's a very -- it's a very kind of tough game he's
24 playing, because the idea is to come up with a notion
25 of design that cannot be reduced to either necessity

1 or chance. And so the counter-examples are along the
2 lines of saying, well, you know, this could be seen as
3 chance or this could be seen as necessity, where is
4 that middle space that you're going for.

5 But that's kind of to be expected, it seems
6 to me, given that if he is able to come up with this,
7 this would be quite a radical departure from, let's
8 say, the way we think about evolution, which is a
9 combination of necessity and chance.

10 Q. If we can -- if he can come up with this.
11 But as you say, his failure to address some of the
12 counter-examples to this very difficult hypothesis
13 that he's making, I mean, in your estimation right now
14 is really damning?

15 A. Well, no, he's been trying. I mean, it's
16 just he doesn't satisfy all of his critics.

17 Q. But the fact that he has failed to address
18 some of the counter-examples is damning to his theory?

19 A. I mean, he's trying. He doesn't do it to
20 everyone's satisfaction. But he is -- I have seen
21 responses to his work -- his responses to his critics'
22 work, and he is trying.

23 I mean, there aren't a lot of -- see, if
24 there were more people working in this area, you know,
25 there would be kind of support and there might be some

1 way of developing this a little faster and on more
2 different fronts, but he's pretty much doing it
3 himself.

4 Q. If I could direct your attention to Page 65
5 of your deposition.

6 A. Yes.

7 Q. I'm going to start reading -- do you have it
8 there?

9 A. Yes.

10 Q. I'm going to start reading with the question
11 on Line 2. Quote, But what is your understanding of
12 these counter-examples? Is it that they have -- that
13 critics have taken these counter-examples and used
14 some probabilistic method to determine what happened
15 to them, or have they been raised as examples that
16 Dr. Dembski needs to apply his method to to show that
17 it works at all? And your answer is, Yes, the latter.
18 I mean, but is this damning? Yes, I mean, I agree
19 with you.

20 A. No, no, I'm not referring to that it's
21 damning. I mean that the latter -- I'm not saying
22 that the fact that they have raised counter-examples
23 to -- suggests his method doesn't work at all. I am
24 agreeing that that's the nature of the
25 counter-example. I am not agreeing to it being

1 damning.

2 Q. But you're saying that Dembski needs to
3 apply his method, and he hasn't done that to the
4 counter -- he hasn't applied his method to the
5 counter-examples, and that's damning?

6 A. Let me just read this. Can you restate the
7 question now? I've sort of -- restate the question,
8 please, now that I've understood what I've said.

9 Q. That Dembski's failure to address these
10 counter-examples is damning to his theory, at least
11 for right now.

12 A. Well, actually, I tend to interpret the word
13 "damming" as pretty final. But, you know, damning for
14 right now sounds to me like a contradiction in terms.

15 When I say, yes, I agree with you, what I'm
16 agreeing to is that you gave two alternatives in your
17 question, and I'm agreeing to the latter of those
18 alternatives. I'm not agreeing to your subsequent
19 statement of it being damning. That's what I'm doing
20 there.

21 Q. But that's what you said in the deposition?

22 A. That's the order of the words, but, you
23 know, in the course of speech, right, it's -- you
24 know, it may not actually be as it seems.

25 Q. So what's printed on the page may be

1 different than what we're reading?

2 A. No, that's not what I'm saying. But, look,
3 the way I answered the question, right, I gave, you
4 know, whatever, three or four short remarks. But, I
5 mean, clearly -- because, look, the word "damning" is
6 very final, and I don't believe it's damning.

7 Q. All right. Well, let's look at your next --
8 let's look at your next answer and the question that
9 was posed to you right after that. Isn't the
10 challenge to Dr. Dembski right now that your method is
11 useless? And your answer was -- and I'm going to read
12 this and please follow along -- The fact that you
13 bring up counter-examples doesn't mean that it doesn't
14 explain anything. Right? I mean, in fact, the way
15 the general verdict on somebody like Dembski is that,
16 you know, it sort of leads -- it's kind of -- it
17 doesn't quite fit the full range of things that we
18 normally consider design. It tends to include certain
19 things that we don't want to call design, and it tends
20 to exclude other things that we do want to call
21 design. So in that sense, the mathematical parameters
22 aren't being set quite right, and that might indicate
23 some fundamental flaw in the way he's conceptualizing
24 the problem. Okay? That's what the state of play is
25 with him.

1 A. Yes, I would think that that's kind of what
2 the received opinion is at the moment on his work.

3 Q. So there may be some fundamental flaw with
4 his hypothesis?

5 A. Yes, but this is a very common response to
6 someone who is making a very fundamental challenge
7 working so early in this area. So this doesn't -- in
8 a sense, it doesn't phase me.

9 Q. But you would agree with me then that
10 Dembski has not yet succeeded in showing that life is
11 intelligently designed?

12 A. Oh, no, he hasn't shown that.

13 Q. And you're not aware of anyone else using
14 his hypothesis or his mathematical filter to show that
15 life was intelligently designed?

16 A. Well, there has been some synergy between
17 him and Behe in recent times, but I don't think
18 there's been any systematic application.

19 Q. So you're not aware of anybody else
20 successfully applying his hypothesis to prove design?

21 A. No, no. I mean, his stuff tends to be
22 applied on artifacts and whether or not there's fraud
23 or, you know, what the design features are, things of
24 that kind.

25 Q. Things made by humans?

1 A. Yes, that's the prime -- I mean, it's very
2 good on that front.

3 Q. Right. And, of course, we know who made it
4 if it's made by humans. Is that a tautology, I think
5 I just --

6 A. Well, we often don't know which ones unless
7 we do the work.

8 Q. Let's turn to Dr. Behe's theory of
9 irreducible complexity. And I believe you've termed
10 it -- you're saying he's trying to come up with an
11 alternative science?

12 A. Yes.

13 Q. And you agree that he has not gotten his
14 studies peer reviewed?

15 A. Well, he did get -- I mean, I've recently
16 seen a thing that he got on proteins that has appeared
17 in *Protein Science* that is sort of presented --

18 Q. Is that with Professor Snoke?

19 A. I believe so.

20 Q. And that doesn't mention intelligent design?

21 A. No, it mentions evolution and natural
22 selection as a test of it.

23 Q. And it doesn't mention irreducible
24 complexity?

25 A. No, no. I mean, no, that's true, it does

1 not. There may be reasons for that, but --

2 Q. Well, and one of the reasons -- let me ask
3 if you agree with me that one of the reasons it's not
4 in peer review, because from the standpoint of the way
5 in which normal science is conducted, Behe's work is
6 not very useful?

7 A. Well, it's not towing the right line, that's
8 for sure.

9 Q. So, I mean, even under your kind of expanded
10 definition of science where it does not have to be
11 well established, Behe must really launch his own
12 research program?

13 A. Well, I think, in fact, that is what he's
14 trying to do.

15 Q. He hasn't done that yet?

16 A. Well, it all depends what you mean. I think
17 he is trying -- I mean, in a sense, making some common
18 cause with Dembski is helpful here and, in fact, is to
19 be expected that there will be this kind of -- you
20 know, Behe can't do everything himself either. Right?
21 I mean, he's a biochemist, and he has certain kinds of
22 specialties, and he really needs to be in contact with
23 people in other areas who are sympathetic to this in
24 order for it to really take off. But he's certainly
25 doing the best he can.

1 And I really think this is, again, another
2 one of these institutional problems, that you can't
3 just expect one person to come up with a whole
4 research program fully blown from his head. I mean,
5 typically this involves having students -- you know, I
6 mean, starting journals, getting the work published
7 and circulated and all the rest of it, and you do need
8 a critical mass of people for that.

9 Q. And so you would agree that right now
10 Professor Behe and irreducible complexity have neither
11 robust peer review nor a robust research program?

12 A. Well, I mean, he has as robust a research
13 program as he possibly can under the circumstances, it
14 seems to me. And the same would go for Dembski.
15 They're doing the best they can with the minimal
16 resources that they have.

17 And with regard to peer review, you know, I
18 think that one has to, you know, look at that very
19 cautiously. Yes, strictly speaking, there isn't that
20 much peer-reviewed stuff by him, but, you know, again,
21 there -- there are institutional issues here, it seems
22 to me.

23 Q. And you're not aware of the research that
24 Professor Behe is actually doing on intelligent
25 design?

1 A. I'm not a specialist in his work, so I don't
2 have, like, up-to-date information about him.

3 Q. And you haven't read his testimony from the
4 trial last week, have you?

5 A. Well, actually, I did read some parts of it.

6 Q. So you don't -- do you recall what he said
7 about his research program on intelligent design?

8 A. I only recall the kinds of questions -- he
9 was asked to explain, you know, the irreducibility of
10 the cell and all this kind of stuff. I don't recall.
11 But then I didn't commit the transcript to
12 testimony -- excuse me, to memory.

13 Q. But as you sit here, you're not aware of
14 what research Professor Behe is doing?

15 A. Yes, but I'm not an expert on the man.

16 Q. Let's go over the logic of irreducible
17 complexity and Dr. Behe's argument here. And it
18 starts out as intelligent design is a better
19 explanation than evolution. Is that right?

20 A. It starts with that?

21 Q. Isn't that kind of the --

22 A. What do you mean it starts?

23 Q. Well, is it a better explanation than
24 natural selection? I mean, isn't that sort of the
25 premise, intelligent design is a better explanation of

1 biological life?

2 A. That's what he's aiming to show. That's
3 what he's aiming to show, if that's what you mean.

4 Q. That it better explains biological life than
5 random mutation and natural selection?

6 A. Yes, he believes that.

7 Q. And he says that random mutation and natural
8 selection are not an adequate explanation for
9 biological life?

10 A. That's correct.

11 Q. And then, therefore, intelligent design is
12 better?

13 A. Well, I don't know. Does he exactly say
14 that?

15 Q. Well, I think that's what you said.

16 A. Well, I mean -- did I say that?

17 Q. Why don't you turn to Page 168 of your
18 deposition. If you'll look at Line 21.

19 A. Yes.

20 Q. The question, Therefore, intelligent design
21 is the best explanation? Answer: Yes, that's roughly
22 what's going on.

23 A. Yes, I see. So the idea being that I'm
24 saying -- he's saying it's -- you know, if it's not
25 natural selection, it's therefore intelligent design.

1 Okay. But Miller does the same thing in reverse when
2 he tests Behe's experiment.

3 I mean, there's a sense in which this kind
4 of debate tends to have this character where one side
5 says, well, look, if you show that the thing is not
6 irreducibly complex, therefore it's natural selection,
7 and so he plays the game the other way around. So
8 there's a sense in which he's -- he's hardly alone in
9 being guilty in this sin of having dichotomous
10 thinking.

11 Q. Well, let's talk about that sort of first
12 part of Behe's argument, the irreducible complexity.
13 And there, in fact, have been challenges made to his
14 assertion that there are cells or organisms that are
15 irreducibly complex. Correct?

16 A. Correct.

17 Q. And, for instance, Professor Behe, in his
18 1996 book *Darwin's Black Box*, threw out some potential
19 examples, the blood clotting cascade, the immune
20 system?

21 A. The bacterial flagellum.

22 Q. Right. Who could forget the bacterial
23 flagellum. And lac operons, too.

24 A. Oh, of course, yes, yes, yes.

25 Q. And, in fact, as happened last week,

1 Professor Behe was confronted with -- I think it was
2 58 peer-reviewed journals and a number of textbooks
3 that talked about various evolutionary pathways for
4 the immune system. So the scientists have actually
5 come up with possible natural explanations where
6 Professor Behe said there were none because it's
7 irreducibly complex.

8 A. Um-hum.

9 Q. Is that correct?

10 A. I'm perfectly willing to believe this.

11 Q. So I want to focus on the second part of
12 Dr. Behe's argument. Okay? Irreducible complexity, I
13 want to make sure we understand this, is that science
14 cannot fully or evolution cannot fully explain --

15 A. Natural selection is really his target.

16 Q. Okay. So natural selection -- well, that
17 may be his target, but that's not exactly what
18 evolution says. Evolution, if you'll agree with me,
19 evolution doesn't say that natural selection alone is
20 the mechanism of change?

21 A. No, but that's the thing that he's targeting
22 in his examples.

23 Q. Right. But you would agree with me that
24 natural selection is not the only change agent?

25 A. No, but I thought you were talking about

1 what he's trying to do.

2 Q. I am. But as I understand it, his
3 irreducible complexity argument is that, in fact, some
4 things are so complex that there couldn't be a natural
5 explanation for them or a natural pathway.

6 A. No, what he's saying is that you could never
7 reach -- you could never reach the state of the cell
8 being in its sort of integrated whole just through
9 processes of natural selection, you know, to random
10 mutation and so forth. It would take too long to get
11 to that state and that the earth isn't old enough, as
12 it were, to allow natural selection to work for the
13 cell to get into that state. That's what his argument
14 is.

15 Q. So he's saying, I can't imagine how this
16 could have happened naturally in science?

17 A. No, that's not the same thing. He's
18 actually making a -- you know, a quite specific
19 statement, you know, where he's calculating how long
20 would it take through natural selection for this
21 particular cell to develop as it is, and he's saying
22 it's too long.

23 Q. Right.

24 A. It takes too long. And that's a strike
25 against natural selection given how long we take the

1 earth to have been around.

2 Q. But what he's saying is that natural
3 selection can't explain this. That's the first part
4 of his argument?

5 A. Well, that's right. And he means it in this
6 very specific way that I have just described, namely,
7 it would take too long if you took natural selection
8 seriously.

9 Q. So it's a negative argument against natural
10 selection?

11 A. It's not merely a negative argument, it's
12 actually a potential test of it. In a sense, his
13 argument is designed as a test of natural selection
14 because, look, even if you can give potential
15 evolutionary explanations, you still have to explain
16 the time frame in which it happened, and that hasn't
17 been done yet by the evolutionists.

18 Q. So what he's saying is that evolutionists
19 haven't fully explained these theories?

20 A. Oh, yes. And I think even the evolutionists
21 would agree with that.

22 Q. Absolutely. I don't think anybody is
23 disputing that. But I want to focus on the second
24 part of his argument, which is the one actually for
25 design.

1 A. Right.

2 Q. Okay? So, you know, even assuming that and
3 even accepting that evolution and science cannot
4 detail all evolutionary pathways, design still doesn't
5 follow logically from that, does it?

6 A. You're absolutely right, and there is this
7 dichotomous thinking that just penetrates both sides
8 of this debate, and that includes Miller.

9 Q. So in order for the irreducible complexity
10 to be logically valid, one would have to assume that
11 Behe has eliminated all rival hypotheses, not just
12 one?

13 A. Of course, of course.

14 Q. And here, just because science hasn't
15 provided a naturalistic explanation today doesn't mean
16 that there aren't any naturalistic explanations?

17 A. Of course, that's all true. I mean --

18 Q. Right. And it doesn't mean that science
19 isn't going to find some natural explanation tomorrow
20 just because we don't know it today?

21 A. Of course. Who could disagree.

22 Q. So you agree that the absence of
23 naturalistic explanations is not a proper test to show
24 the supernatural in biology?

25 A. No, in fact, there's a sense in which this

1 whole debate is very wrong headed. I mean, in a
2 sense, both should just be allowed to develop their
3 research programs rather than to score premature
4 knock-out punches in simple-minded fashion. And that
5 goes for both sides again.

6 Q. And speaking of both, let's bring
7 Mr. Dembski back into this.

8 A. The other "both." Okay. Not Miller.

9 Q. So both Michael Behe and Professor Dembski
10 have the same logical problem with their argument.
11 Correct?

12 A. Well, will you tell me what the problem is
13 before I consent to it?

14 Q. Sure. The affirmative argument for design
15 is simply a conclusory proposition that doesn't follow
16 from their criticisms of evolution.

17 A. It is true that design is not entailed by
18 criticisms in evolution, that is true. That's
19 certainly true.

20 Q. So the leap to design is a conclusory
21 proposition?

22 A. But, look, there is more to it than that.
23 Right? I mean, it's not just that they -- they're not
24 just presenting negative evidence, they're sort of
25 showing what it is about the cell that appears to be

1 designed, et cetera, et cetera, that provides a kind
2 of prima facie positive story, as well. Okay?

3 I mean, but it is true that these guys
4 define their position very much in opposition to the
5 evolutionists. And I do -- yes, there's a sense in
6 which it would be better if there was a little space
7 between these two so they could develop their programs
8 independently.

9 Q. But still, coming back, I mean, the
10 assertion for design is really just a conclusory
11 proposition?

12 A. No, there is more to it than the conclusions
13 that are drawn on the basis of negative evidence about
14 evolution.

15 Q. All right. Would you turn to Page 185 of
16 your deposition.

17 A. Yes.

18 Q. I'm sorry, I had the wrong page here. Page
19 170, beginning on Line 5 -- well, let's see, you say,
20 Dembski has a similar problem. And the question is,
21 So both of them have this problem? And then you say,
22 Yes, and then we elucidate. The question is, Okay,
23 but then even granted your point, which I do, I'm
24 still troubled by the idea that even if you would
25 eliminate all the, for example, natural hypotheses

1 that have been asserted, one could make a positive
2 case for action by an intelligent designer, and I'm
3 trying to understand how that follows, which I think
4 is a conclusory proposition.

5 A. Yes.

6 Q. And your answer is, Yes. I mean, yes, it
7 doesn't follow, you're absolutely right.

8 A. Well, I haven't disagreed with that, have I?

9 Q. Have I read that correctly?

10 MR. GILLEN: Objection, Your Honor. I think
11 if he's going to read the answer, he's got to read the
12 whole answer, not just the beginning.

13 THE COURT: Well, he has the opportunity to
14 read the answer and answer it in context and answer in
15 the context of his entire answer, so you feel free to
16 answer the question as it relates to your entire
17 answer or any other answers that you gave. That's
18 understood.

19 MR. GILLEN: Thank you, Your Honor.

20 THE COURT: And we had a question on the
21 floor. Is that right?

22 MR. WALCZAK: I believe he agreed. He said
23 he didn't disagree with the proposition.

24 THE COURT: Then you may proceed.

25 BY MR. WALCZAK:

1 Q. And based on this argument, there's never
2 going to be a decisive moment where intelligent design
3 wins by default simply because it shows that natural
4 explanations have not yet been shown. Is that
5 correct?

6 A. But that's not the whole sum of what the
7 program is about.

8 Q. But simply showing that natural explanations
9 are inadequate is never going to prove intelligent
10 design?

11 A. Not by itself, no, but that's true of any
12 research program. You don't establish your own
13 position by just negating another.

14 Q. And since you can never eliminate all the
15 possible natural alternatives, some people have
16 objected to the idea of inference to the best
17 explanation as being a method in science. Do you
18 agree with that?

19 A. That's certainly true.

20 Q. And you're not aware of any intelligent
21 design people having produced an affirmative test for
22 supernatural causation?

23 A. No, I don't believe so, not them.

24 Q. And you're not aware of intelligent design
25 being empirically tested?

1 A. Well, it is a bit early in the research
2 program for them to actually come up with their own
3 original tests. I mean, as I said earlier this
4 morning, you have to wait some time for the research
5 program to get elaborated so you actually see what
6 would be some interesting test cases where intelligent
7 design is really saying something interestingly
8 different from some natural selection-based
9 explanation, for example.

10 Q. But they haven't done that yet?

11 A. Well, it's very early in the day, right, for
12 these guys.

13 Q. And can you ever disprove a designer?

14 A. Well, actually, that is kind of the point of
15 having a design detector. Right? And this is where
16 Dembski comes in, right, because Dembski is trying to
17 put some kind of specific mathematical parameters on
18 what would count as design. Okay? And so there is an
19 attempt to actually nail down that concept in some way
20 that you could then tell whether something was
21 designed or not.

22 Q. And how do you disprove that there is a
23 designer?

24 A. Well, I mean, there's a sense in which
25 designer -- a design isn't necessarily a commitment to

1 some sort of absolute God. I mean, you know, if what
2 you're thinking about is how do you disprove God,
3 well, yes. But that's not really what the issue is
4 here. It's basically saying whether design is present
5 or not.

6 And then the issue is having some kind of
7 criteria that you can apply unequivocally to be able
8 to make that distinction. That's the goal of the
9 project, right, at the end of the day. And so the
10 issue is nailing down a sufficiently clear notion of
11 design.

12 Q. But if you never hypothesize about the
13 identity or the attributes of the designer, how could
14 you ever possibly disprove that?

15 A. It's not at all clear to me -- I mean, it
16 depends what attributes, exactly, you're talking
17 about. Right? I mean --

18 Q. The intelligent design proponents refuse to
19 hypothesize about any attributes, do they?

20 A. It depends what -- the design of what are we
21 talking about here. Because we're talking about
22 design of cells, right, there's going to be one kind
23 of design-based explanation. If you've got design of
24 artifacts, it's going to be another kind of
25 design-based explanation.

1 Q. Well, we're talking about biological life
2 here.

3 A. Right, okay.

4 Q. So there are different designers?

5 A. I'm not sure that's quite the way to put it.
6 What you want to show is that this is design as
7 opposed to having been the product of chance and
8 necessity, that is kind of what the project is about,
9 and coming up with a clear criteria where you can make
10 the difference between a chance and necessity
11 explanation and a design-based explanation. And
12 that's kind of the conceptual issue that people like
13 Dembski are struggling with at the moment so that, in
14 fact, you could say that this is design or not design,
15 because they don't believe everything is designed.

16 MR. WALCZAK: Your Honor, this might be a
17 good time for a break.

18 THE COURT: All right. Why don't we take
19 our afternoon break now. We'll break for 20 minutes,
20 and we'll return at about 3:20 to have our last
21 session of the day. We'll be in recess.

22 (Recess taken.)

23 THE COURT: All right. We continue with
24 Mr. Walczak's cross-examination.

25 BY MR. WALCZAK:

1 Q. I want to talk to you, Professor Fuller,
2 about evolution as the big tent. Emphasize the "T"
3 there. I believe that you testified that evolution is
4 the biggest of big tents?

5 A. Yes. That's partially a compliment.

6 Q. I took it as a complete compliment.

7 A. Okay, good.

8 Q. But evolution includes biology, all the
9 biological sciences, cell biology, microbiology,
10 genetics, paleontology. And so evolution really has
11 managed to accommodate all of these many scientific
12 disciplines?

13 A. Yes, that's true, that's true.

14 Q. And, in fact, even within these disciplines
15 as you've testified, there are many disagreements
16 among people about exactly the means and mechanisms of
17 evolutionary theory?

18 A. Yes.

19 Q. So, in fact, evolution is a very inclusive
20 theory that brings together many different disciplines
21 and thousands and thousands of scientists?

22 A. Yes, it does. That's certainly true.

23 Q. And intelligent design has not been able to
24 penetrate the science?

25 A. Well, intelligent design, in a way, scopes

1 out the sciences differently, but it certainly has not
2 been able to get the sort of, you know, breadth of
3 constituency that evolution has had, but it's had much
4 less time to work with.

5 Q. I want to talk about intelligent design's
6 big tent. Would you put up Exhibit 429, please.

7 MR. WALCZAK: May I approach, Your Honor?

8 THE COURT: You may.

9 THE WITNESS: Is there a hard copy? All
10 righty. Life in the big tent.

11 BY MR. WALCZAK:

12 Q. I direct your attention to the synopsis
13 there in the second paragraph.

14 A. Yes.

15 Q. If you could read beginning with "under"
16 halfway through that second paragraph.

17 A. Do you want me to read it out loud?

18 Q. Please.

19 A. Under the canopy of design, as an empirical
20 possibility, however, any number of particular
21 theories may also be possible, including traditional
22 creationism, progressive old-earth creationism, and
23 theistic evolution. Both scientific and Scriptural
24 evidence will have to decide the competition between
25 these theories. The big tent of ID provides a setting

1 in which that struggle after truth can occur and from
2 which the secular culture may be influenced.

3 Q. So evolution brings together all sorts of
4 scientific disciplines. Correct?

5 A. Correct.

6 Q. And intelligent design here brings together
7 not only some alleged science, but also religious
8 views?

9 A. But this is not the intelligent design I'm
10 talking about. This is one particular scoping of it.
11 I don't -- this is not the type that I'm talking about
12 as being a scientific competitor for evolutionary
13 theory.

14 Q. And do you know who Paul Nelson is?

15 A. Vaguely, vaguely, yeah, yeah. He has some
16 connection with Dembski, doesn't he?

17 Q. He is a senior fellow at the Discovery
18 Institute. What's the intelligent design you're
19 talking about?

20 A. Well, I'm talking about the type that is
21 interested in playing by the rules of science in the
22 sense of trying to come up with a research program
23 with testable hypotheses, that, in a sense, is
24 competing in the scientific space, primarily,
25 regardless of what the religious motivations may be,

1 but not taking the religious motivation itself somehow
2 as evidence, as it were, for the scientific validity
3 of the statements.

4 Q. So, in fact, this would not be acceptable to
5 you as --

6 A. Not to me, at least in terms of these
7 various disciplines that are being included here.
8 Some of these would not, for me, count as
9 appropriately scientific.

10 Q. And I know you talked about the motivations
11 of the proponents didn't necessarily invalidate a
12 theory so long as it was testable otherwise.

13 A. That's correct.

14 Q. Now, if the motivation, in fact, was shown
15 to be -- to develop a view that is consonant with
16 Christian and theistic convictions, would that change
17 your opinion?

18 A. Well, it depends whether it was testable or
19 not, doesn't it? I mean if it's testable by
20 scientific means. I mean, after all, Sir Isaac Newton
21 thought he was interpreting the Bible when he was
22 doing Principia Mathematica, but you didn't have to
23 hold that view in order to see that his theory was
24 valid.

25 Q. But if you start out with a premise that

1 we're going to design something to make it consonant
2 with particular religious views --

3 A. Well, we'll have to see whether it pans out
4 scientifically.

5 Q. So that --

6 A. It may be a good heuristic, it may not be.
7 But the proof of the pudding is in the scientific
8 eating, not in the consistency with the Bible.

9 Q. So it has to survive the testability that
10 you talked about?

11 A. Yes. And here I would emphasize the point
12 that testability is a notion that is neutral to the
13 tested parties. So it's, you know -- so, in other
14 words, one doesn't, as it were, have theistic tests
15 that only theistic people can abide by.

16 Q. Matt, could you put up Plaintiffs' Exhibit
17 718.

18 A. Oh, yes.

19 MR. WALCZAK: May I approach, Your Honor?

20 THE COURT: You may.

21 THE WITNESS: Thank you.

22 BY MR. WALCZAK:

23 Q. This is an article written by Professor
24 Behe.

25 A. I'm familiar with it.

1 Q. You are familiar with it. If you could turn
2 to Page 705 of this.

3 A. Yes.

4 Q. And you'll see about four lines down it
5 says, The argument is less plausible to those for whom
6 God's existence is in question and is much less
7 plausible for those who deny God's existence. Do you
8 see that?

9 A. What is he referring to?

10 Q. He's referring to intelligent design. The
11 question is, What if the existence of God is in
12 dispute or denied? I mean, please, if you'd like to
13 take a moment to read that.

14 A. Yeah. Okay. How much of this do you want
15 me to read for myself?

16 Q. Well, let me --

17 A. I just looked at the first paragraph. Do
18 you want me to look at any more of it?

19 THE COURT: You can read all of the article
20 that you desire to make sure --

21 THE WITNESS: Well, I'm not sure what he's
22 asking.

23 THE COURT: Well, if you need to read more
24 based on his question, then you can tell him.

25 THE WITNESS: Okay.

1 THE COURT: But suffice it to say that
2 you've read the referenced paragraph. Is that
3 correct?

4 THE WITNESS: Yes.

5 THE COURT: All right. Then you go ahead
6 with your question.

7 BY MR. WALCZAK:

8 Q. So if the validity of a theory or belief in
9 a theory depends on whether or not you believe in God
10 or not, does that undermine your assertion that this
11 would be science?

12 A. But he's not saying that. He's saying
13 plausibility.

14 Q. He's saying that if you are not sure about
15 the existence of God, it makes this theory less
16 plausible, and that if you deny the existence of God,
17 if you're an atheist, then that makes the theory even
18 much less plausible. If you have a theory that
19 depends on whether or not you believe in God or not --

20 A. I think he's talking about the context of
21 discovery. Namely, is this kind of theory,
22 intelligent design -- what kind of person is likely to
23 be drawn to it is something to turn into a research
24 program. So it's a context of discovery matter, I
25 take it.

1 And historically, it is true, people like
2 Sir Isaac Newton and Mendel who, in a sense, thought
3 they could get into the minds of God had a much easier
4 time dealing with the design standpoint. Okay? And I
5 think that's all he's saying. I might be wrong. I
6 haven't read the whole thing. But, you know, if
7 that's what he's saying, that's pretty innocent. He's
8 not saying validity, he's saying who would be
9 attracted to this as a kind of argument to pursue.

10 Q. Well --

11 A. I mean, again, I'm guessing what he really
12 says here, but it seems to me he's not talking about
13 validity. He may be later. You tell me.

14 Q. Well, he's talking about the plausibility of
15 the argument.

16 A. Okay, but plausibility, in a way, is what
17 would draw you to the argument as something you want
18 to develop. Right? I mean, this is the whole issue
19 about heuristics. Certain kinds of ideas, you know,
20 usually like analogies, metaphors, and things we find
21 quite compelling and we use them as the basis for
22 research. And certain people will be attracted to
23 certain ones more than others. Some are attracted to
24 organic metaphors, mechanical metaphors. It seems to
25 me that's the level at which this remark is being

1 made, at least prima facie.

2 Q. Well, but let's take it to the next level of
3 justification. I mean, if that's true, if you're more
4 likely to believe in this if you believe in God, if
5 you're more likely to be attracted and supportive of
6 this argument if you believe in God, does that affect
7 your view of whether or not this is science?

8 A. Well, look, if this were a statement about
9 the context of justification, where, in a sense, you
10 need to believe in God in order to see the validity of
11 the argument, if that were the case, if that was what
12 he was saying, that would not be scientific.

13 Q. I believe you testified today that
14 intelligent design is not creationism.

15 A. That's correct.

16 Q. But it is, in fact, a kind of creationism,
17 is it not?

18 A. Well, what I mean there is that there is a
19 historical connection out of which it grew, and we
20 share some similar kinds of proclivities, but it's, in
21 fact, moved in a completely different direction, it
22 seems to me.

23 Q. But it's a modern view of creationism?

24 A. I think that's a little misleading. It's a
25 really radical transformation. It's a really

1 substantively different thing, and that's indicated by
2 the kind of training of the people who are, in fact,
3 in intelligent design. They actually are trained as
4 scientists of one sort or another.

5 Q. If you could turn to Page 67 of your
6 deposition.

7 A. Bear with me. I have some of my pages
8 confused. I'm sorry.

9 Q. Take your time.

10 A. Page 67?

11 Q. Yes.

12 A. Okay.

13 Q. Line 15. And the question asked is, You've
14 used this phrase ID in conjunction with earlier forms
15 of creationism, not just in your previous answer, but
16 also in your report. And I infer from that what you
17 mean is intelligent design is a modern view of
18 creationism. Then there's an objection from
19 Mr. Gillen, and then the question restated, Is that
20 correct? And your answer is, Well, again, yes, in a
21 sense, but, I mean, not all creationism has been
22 six-day creationism.

23 So this isn't young earth creationism, but
24 it is a modern view of creationism, it's a type of
25 creationism?

1 A. I would say it has evolved out of
2 creationism, but it's become a totally different
3 thing, something where one doesn't need to be an
4 adherent to the various theological views of
5 creationism in order to practice it.

6 Q. If you could go to the next page, Page 68,
7 and starting on Line 21, the question is, Intelligent
8 design is creationism, not just six-day creationism?
9 And then your answer beginning on Line 24, It is a
10 kind of creationism, it is a kind of creationism.

11 I didn't read the same passage twice. It's
12 actually twice on there. Did I read that accurately?

13 A. Well, it looks like that is what the
14 sentences say. But, I mean, if I may, let me just
15 have a look here. Well, it seems to me that what I'm
16 talking about here is that there is some historical
17 connection between creationism and intelligent design.
18 And so in that sense, there is a genealogy that goes
19 back to that. But that's all I'm saying at this
20 point. I'm not saying that to practice intelligent
21 design, one has to be some kind of creationist.

22 Q. And if you could now turn the page --

23 A. Turn the page literally?

24 Q. I'm sorry, to 69.

25 A. Oh, okay.

1 Q. And beginning on Line 2, the question is,
2 When you use the word "creationism," what do you mean?
3 And could you read Lines 4 through 9, please, into the
4 record.

5 A. Well, I mean that the idea that there is a
6 kind of unified order to nature that is evidence of
7 intelligent design. I mean what we now call
8 intelligent design which used to be called the creator
9 because the creator was always the person who had the
10 intelligent design. So there is this historical
11 lineage. I don't think that's controversial. So I'm
12 making a historical point here. That's all I'm doing,
13 is making a historical point.

14 Q. And creationism presupposes a creator that
15 is separate from creation?

16 A. Yes, that's kind of the supernatural
17 element, you might say.

18 Q. What we now call the intelligent designer
19 used to be called the creator historically?

20 A. Yes.

21 Q. Because the creator was always the person
22 who had the intelligent design?

23 A. That's a historical point, yes.

24 Q. The term "special creation," are you
25 familiar with that term?

1 A. Yes, I am.

2 Q. And by that do you mean that each of the
3 species was specially created by God or some master
4 intellect that arose -- that they arose and did not
5 come from a common form of life and each one is made
6 specially by design?

7 A. I mean, the basic point about special
8 creation is the denial of common descent. I think
9 that's the fundamental view about it, much more so
10 even that God happened to have done it. But, again,
11 historically, special creation is connected with this
12 idea of the creator, as well. There are several
13 versions of it. But you've given a particularly sort
14 of strong version of it.

15 Q. And would you agree that that's a form of
16 special creation?

17 A. What is a form of special creation?

18 Q. The definition that I just gave.

19 A. Yes, it's a strong version of it.

20 Q. But it is a version of special creation?

21 A. Well, what you -- the thing that you said,
22 created by God, the species separately, not common
23 descent, and that kind of thing that you laid out.

24 Q. But is that not, in fact, your definition of
25 special creation?

1 A. I'm not objecting to it. I'm just saying
2 that there are different types of special creation.
3 And some don't actually have to postulate a creator,
4 it's more kind of a denial of common descent. So if
5 you believe there were multiple origins, perhaps,
6 right, of life or the universe or something like that.

7 Q. Well, but special creationism really is
8 predicated on species arose from some divine
9 blueprint?

10 A. Well, I mean, historically there is that
11 connection, but there are people who believe -- who
12 seem not to worry about the creator. I mean, Linnaeus
13 may have been one example, actually, because Linnaeus
14 has a kind of special creation presupposition built
15 into his classification system but not a lot of
16 thought about God behind it.

17 Q. And special creation is a remnant of the old
18 biblical creation story?

19 A. Historically, of course. But then most
20 notions in biology have some kind of root back there.

21 Q. And I believe you just said that special
22 creation is really the opposite of common descent?

23 A. Historically, yes, that's true. And
24 certainly they move in different directions, different
25 spaces.

1 Q. Matt, could you put up Plaintiffs' Exhibit
2 562, the page we've identified.

3 MR. WALCZAK: May I approach, Your Honor?

4 THE COURT: You may.

5 THE WITNESS: Thank you.

6 MR. WALCZAK: Matt, can you blow up the
7 passage in question.

8 BY MR. WALCZAK:

9 Q. Dr. Fuller, let me direct your attention to
10 the bottom of Page 214.

11 A. Um-hum.

12 Q. And there's a passage there. It appears to
13 be a definition of creation. And I want to ask you to
14 read that and then tell me whether you agree that
15 that's a definition of special creation.

16 A. What are you referring to exactly?

17 Q. I'm sorry, on Page 2-14.

18 A. Yeah.

19 Q. At the very bottom.

20 A. So where it says, Creation means that?

21 Q. Right, and then it goes on to the next page.

22 A. Okay.

23 Q. If you could read that out loud, I'm sorry.

24 A. Oh, okay. Creation means that various forms
25 of life began abruptly through the agency of an

1 intelligent creator with their distinctive features
2 already intact, fish with fins and scales, birds with
3 feathers, beaks, and wings, et cetera. Is that
4 enough, or do you want me to go on?

5 Q. No, that's fine. Would you agree that
6 that's a definition of special creation?

7 A. That's certainly one way of capturing it,
8 yes.

9 Q. That is a definition, a definition of
10 special creation?

11 A. Yes.

12 Q. In a 1998 article, the First Global
13 Cyberconference on Public Understanding of Science, is
14 that something you wrote?

15 A. Yes, I was the one who ran the thing, and
16 this is a report on it you're referring to.

17 MR. WALCZAK: May I approach, Your Honor?

18 THE COURT: You may.

19 BY MR. WALCZAK:

20 Q. I want to direct your attention to Page 331.

21 A. Um-hum.

22 Q. And about halfway down the first paragraph
23 it says -- I'm going to read it starting with the word
24 "however."

25 A. Yes.

1 Q. And this is something you wrote?

2 A. Yes.

3 Q. It reads, However, American discussions of
4 PUS -- and, I'm sorry, PUS is public understanding of
5 science?

6 A. Yes.

7 Q. American discussions of public understanding
8 of science have been more open to matters concerning
9 alternative medicine and so-called new-age and
10 multicultural knowledges, as well as the incorporation
11 of religiously inspired doctrines, and then in
12 parentheses, e.g., intelligent design theory, a.k.a.
13 creationism, close paren., into mainstream science
14 education.

15 A. Yes.

16 Q. Did I read that correctly?

17 A. Yes, you did.

18 Q. And that's something that you wrote?

19 A. Yes, I did.

20 Q. And "a.k.a." means also known as?

21 A. Yes, it does.

22 Q. So that phrase actually reads, intelligent
23 design theory, also known as creationism?

24 A. Well, I think what I was referring to is
25 that is, in fact, how it is known. It's not

1 necessarily my equation or endorsement of the two
2 things.

3 Q. Now, this piece was published in *Darwinism,*
4 *Design and Public Education?*

5 A. No, you're thinking of the other piece.

6 Q. The other piece.

7 A. That came up in the deposition.

8 Q. So this piece was published in 1998?

9 A. That's right. And that's an issue, too,
10 because there's a sense in which intelligent design,
11 in its scientific form, really has only taken off in a
12 serious way since 1996, I would say. So there is a
13 sense in which there is some fuzziness here about the
14 dividing line. But if I were writing this today, I
15 would make a very clear distinction because it seems
16 to be there are two clearly separable tendencies going
17 on here.

18 Q. So it was creationism and then sometime in
19 1996 or later it stopped being creationism?

20 A. No. What happened is, new people started to
21 get involved with it. Behe and Dembski weren't part
22 of the old creationist crowd. Okay? I mean, they are
23 different people. They're sort of like a new
24 generation of people who may be religiously inspired
25 but who are sort of playing by the rules of science

1 and have proper scientific training. So it's a sort
2 of different ball game, people with different
3 backgrounds.

4 Q. So could you say that this is creationism
5 without reference to God or the Bible and it's really
6 expressed in the language of --

7 A. What kind of creationism is this that we're
8 left with then you have to wonder.

9 Q. Well, would you say that it's creationism
10 expressed in the language of biochemistry and
11 information theory?

12 A. Well, look, after a certain point, it
13 doesn't matter what the motivation is. If it's done
14 in information science and biochemical theory or
15 whatever, then that's what it becomes, regardless --
16 even if there was some sense in which this stuff was
17 religiously motivated, if it is being completely or
18 largely expressed in the idioms of these sciences,
19 then it has effectively entered into the scientific
20 domain.

21 Q. So even though it may be the same concept
22 but now you're talking about it in scientific or
23 mathematical terms --

24 A. You're getting metaphysical with me here.
25 The same concept? You mean the same motivation, don't

1 you?

2 Q. No, I'm talking about the same concept of
3 special creation.

4 A. No, it isn't the same concept. I mean, I
5 don't see it. Maybe you see it. I don't see it. I
6 don't see it as the same concept. I see it -- you
7 know, it's like the emergence of a new species.

8 Q. But with historical roots and a common
9 ancestor?

10 A. Yes. But, you know, again, this is where
11 you have to distinguish context of discovery and
12 context of justification. You can't damn people by
13 their roots.

14 Q. And in 1998, when you published the article,
15 you used the word "creationism" so people had a sense
16 of what exactly intelligent design is without having
17 to give a whole song and dance about it?

18 A. I'm not sure why you infer that. I mean, I
19 guess I don't see -- no, I don't know why you --

20 Q. Why did you use the term "creationism" in
21 that passage that we referred to before? I mean, you
22 wrote --

23 A. Yes.

24 Q. -- intelligent design a.k.a. creationism.
25 Why did you do that?

1 A. Why did I do that? Well, because that term
2 was coming into vogue at the time and it wasn't quite
3 understood where that term was coming from. And so,
4 in a sense, I was giving a kind of historical marker
5 to it.

6 Q. So you were using creationism as a marker
7 for --

8 A. Yes. And also, to be perfectly honest, I
9 wasn't all that familiar with intelligent design back
10 then. I had some knowledge of it, but there was a
11 sense in which differences of the kind that I'm able
12 to sort of be more confident about I wasn't so clear
13 on before. I mean, the thing has changed, and I've
14 learned more about it.

15 Q. So you were using creationism as a place
16 holder because you didn't know that much about it?

17 A. Well, I -- in a sense, yes. I mean --

18 Q. Do you know Jon Buell?

19 A. No.

20 Q. Do you know who he is?

21 A. No. Who is he?

22 Q. President of the Foundation for Thought and
23 Ethics.

24 A. No. I don't travel in those circles.

25 Q. So it's just purely a coincidence that you

1 and he picked the same place holder, creationism for
2 intelligent design?

3 A. I'm not sure why you bring him up. Do I
4 have some connection with him?

5 Q. I was asking whether you did.

6 A. No.

7 Q. And so you would agree that ID has its roots
8 in creationism?

9 A. All I'm saying is that there is historical
10 connection, a historical tie, but that's all I'm
11 saying.

12 Q. And it's a way of interpreting creationism?

13 A. No, I'm saying it goes way beyond that and
14 doesn't even require -- it doesn't require
15 interpreting creationism.

16 Q. If you could turn to Page 153 of your
17 deposition, please. And if you could look at the
18 bottom, I'm going to read the question and ask you to
19 read the answer. The question is on Line 21. But
20 clearly you are indicating that intelligent design is
21 creationism --

22 A. I'm sorry, I'm losing the plot here. Where
23 are you?

24 Q. I'm sorry, Page 153, Line 21.

25 A. Right, okay. Go ahead.

1 Q. Question: But clearly you are indicating
2 that intelligent design is creationism in some sense?
3 And then Mr. Gillen objects. And then your answer, if
4 you could read your answer going through Line 1 of the
5 next page.

6 A. It is -- it does have roots in that. I
7 mean, intelligent design is a way of interpreting
8 creationism, that's true. Okay. I didn't say it was
9 exclusively that, and I do think it's an unfortunate
10 choice of words.

11 Q. Why is it unfortunate?

12 A. Well, because, first of all, it gives the
13 impression that intelligent design is exclusively to
14 be understood in relation to creationism. That's sort
15 of the main error. But also to talk about intelligent
16 design as a kind of interpretation rather than as an
17 original sort of form of research. That is something
18 I think was misspoken. Certainly I wouldn't say that
19 today.

20 Q. Now, intelligent design uses human design
21 capacities to lead us to conclusions about what
22 nonhuman, non-natural actors can do in terms of
23 creating biological life?

24 A. Yes, that sounds right.

25 Q. And this goes back to the Reverend William

1 Paley?

2 A. Well, William Paley, as I mentioned, is one
3 such source, not exactly my ideal source, but he is
4 one source for this.

5 Q. And Paley -- and, again, correct me if I'm
6 wrong, I'm a novice at all this, but Paley's idea was
7 if human beings can do it, then God can do it kind of
8 in a bigger way?

9 A. Well, that's kind of -- that's kind of the
10 idea, though, in fact, the motivation traditionally
11 has been because we're created in the image and
12 likeness of God, we can understand the plan. It was
13 originally -- the design inference wasn't an inference
14 to the existence of God but rather to the capacities
15 of humans to be able to understand the universe.

16 Q. But that's the --

17 A. But Paley, yeah, you're describing
18 correctly.

19 Q. And that's the theological, not the
20 scientific, but the theological basis for the design
21 argument?

22 A. That's correct.

23 Q. And historically the designer has always
24 been known as a certain kind of monotheistic
25 conception of God?

1 A. Yes, it is in that tradition that comes
2 about, yes. You need a God that's detachable from the
3 creation.

4 Now we're getting some stuff. That's what
5 you were talking about.

6 MR. WALCZAK: I'm sorry, Your Honor, one
7 minute.

8 THE COURT: That's all right.

9 MR. WALCZAK: May I approach, Your Honor?

10 THE COURT: You may.

11 BY MR. WALCZAK:

12 Q. I show you what's been marked as Plaintiffs'
13 Exhibit 787.

14 A. Yes.

15 Q. And do you recognize this?

16 A. I certainly do.

17 Q. And this is part of the book *Darwinism,*
18 *Design and Public Education?*

19 A. That's correct.

20 Q. And this is something that you wrote?

21 A. Yes.

22 Q. And if you could turn to Page 538.

23 A. Yes.

24 Q. Near the bottom of the first full

25 paragraph --

1 A. Yes.

2 Q. -- you wrote, It is surprising that the
3 controversial implications of Meyer's proposal do not
4 seem to have been registered in religious circles.

5 A. I see what you're looking at. Okay.

6 Q. Is that what you wrote? Did I read that
7 accurately?

8 A. It is surprising that the controversial
9 implications of Meyer's proposal do not seem to have
10 been registered in religious circles, yes.

11 Q. And Meyer is Stephen Meyer?

12 A. I guess. Yes, it is.

13 Q. And he's a senior fellow at the Discovery
14 Institute?

15 A. Yes. He's one of the editors of the volume.

16 Q. And back on 230 -- 536, at the bottom of the
17 page there, you discuss what Meyer's proposal is?

18 A. Yes.

19 Q. And that actually is another volume in the
20 book, correct, *Darwinism, Design and Public Education*?

21 A. This is where this is from.

22 Q. But the article --

23 A. What I'm talking about is in there?

24 Q. Yes.

25 A. That's what you're asking me. Yes, I

1 believe so.

2 Q. And if you need a minute just to familiarize
3 yourself with the argument --

4 A. And you just want me to consider Meyer's
5 point here, the part about Meyer?

6 Q. Do you recall now what you wrote about
7 Meyer?

8 A. Yes.

9 Q. Let me try to summarize what Meyer's point
10 was, essentially that genetic information exhibits
11 specified complexity?

12 A. Yes.

13 Q. And that science can't explain the origin of
14 genetic information, that physical and chemical laws
15 cannot explain the ordering of DNA and proteins
16 because they do not specify any particular order in a
17 chemical chain of letters and that random assembly of
18 functional genes and proteins is far too improbable to
19 actually occur?

20 A. Yes.

21 Q. And that was Meyer's argument?

22 A. Yes.

23 Q. And then Meyer's also said, intelligence can
24 explain the origin of specified complex information?

25 A. Yes.

1 Q. And, therefore, we infer that ID is the best
2 explanation?

3 A. Yeah, well, okay. That doesn't follow.

4 Q. I'm sorry, that doesn't logically follow?

5 A. No. There are more steps to be made here.

6 Q. But that was Meyer's argument there?

7 A. Yes, but people do make these inferences to
8 the best explanation much prematurely. It's not my
9 favorite form of argument, but it is one that has been
10 used a lot in science.

11 Q. And you believe that there is a theological
12 problem with Meyer's argument, don't you?

13 A. Let me just -- do you know where I actually
14 say that? I don't give that much thought to Meyer, I
15 must confess.

16 Q. Well, I'm asking you now.

17 A. I see, you're asking my opinion about this.

18 Q. Yes.

19 A. Whether there's a theological problem with
20 Meyer's argument.

21 Q. Well, did you identify a theological problem
22 during your --

23 A. May I have a look at what I was saying -- I
24 guess this refers to the theologians being upset with
25 what he's saying. I don't recall what it was that I

1 meant, so may I check?

2 Q. Please.

3 A. Can you tell me again where it was? I'm
4 sorry, I lost the original cite for Meyer that you
5 mentioned and where I say that Meyer has these
6 theological difficulties.

7 Q. I didn't say you said it in this article.
8 I'm asking you now whether or not you agree that there
9 are theological problems with Meyer's position.

10 A. But you did point to me earlier something
11 that --

12 Q. Right, I pointed you to page -- I believe
13 it's 538.

14 A. Okay. I'm sorry to be so dense about this,
15 but --

16 Q. I'm sorry, it's probably my questions.

17 A. Like I said, I don't give a lot of thought
18 to Meyer's theological implications. I found it.
19 Could I have just a moment to look at it?

20 Q. Please.

21 A. Okay, yes, okay.

22 Q. So at the beginning of that paragraph on
23 138 --

24 A. 538.

25 Q. I'm sorry, 538, you're right. My tentative

1 approval notwithstanding, Meyer's view raises its own
2 questions, one theological and the other more strictly
3 scientific. Is it reasonable or even non-blasphemous
4 to suppose that God is the ultimate artificer?

5 A. Yes.

6 Q. Did I read that correctly?

7 A. That's correct, yes.

8 Q. And you view that as a theological problem
9 with Meyer's argument?

10 A. Yes. I mean, this is the playing God issue
11 that I was talking about earlier this morning that was
12 one of the reasons why a lot of these design-oriented
13 people like Newton had to kind of go underground with
14 their theological views because, in a sense, they
15 thought they could know the mind of God, and Meyer's
16 seems to be kind of moving in the same direction with
17 his theory.

18 Q. So even if we understand how human beings
19 create things, why should we think this is any kind of
20 model for understanding how God does things and let
21 alone how life is created?

22 A. Well, that's correct. I mean, I didn't say
23 that I endorsed that particular -- if that's the
24 inference that he's drawing, I don't particularly
25 endorse it. I mean, I actually think the way that the

1 design works, the design -- the argument for design in
2 science works the other way around, namely by putting
3 ourselves in the mind of God as if we were God, we can
4 sort of understand how the natural world works rather
5 than saying that we can infer God from the way humans
6 do things.

7 Q. I'm sorry, and you're saying he's doing
8 which of those?

9 A. He's trying to actually figure out the
10 existence of God. And I'm saying people like Newton
11 thought they already knew God's mind, and they were
12 trying to figure out how nature works.

13 Q. But you would conclude that it's blasphemous
14 to suggest that we know -- that what we know and what
15 we can do is a model for God?

16 A. I think this is the kind of thing a lot of
17 theologians would get upset about. I personally
18 wouldn't lose sleep over it. I happen to like the
19 connection between the human artificer and God. And I
20 like the idea that people can think of themselves
21 getting into the mind of God, because I think that's
22 been very helpful in the promotion of science. And,
23 again, Isaac Newton is my benchmark. So I have no
24 problem with this, but I understand theologians would
25 find this blasphemous because who are we to sort of

1 figure out how God's mind works.

2 Q. Well, and not only theologians, but there may
3 be non-theologians. They may be everyday, average,
4 ordinary people who would find this blasphemous?

5 A. Sure, yes. Yes, I mean, I didn't say that
6 Stephen Meyer would make it to Heaven.

7 MR. GILLEN: And you haven't been qualified
8 in that area.

9 MR. WALCZAK: I have no further questions.

10 THE COURT: Ending on that note, redirect.

11 REDIRECT EXAMINATION

12 BY MR. GILLEN:

13 Q. I know it's 9:00 in Great Britain.

14 A. All right. I've lost track of the day since
15 I've been here.

16 Q. And it's only 4:00 here, but I think we feel
17 the same in a lot of ways. We're going to wrap this
18 up quickly.

19 Mr. Walczak has directed your attention to a
20 few pages of your deposition, Steve, and for the sake
21 of ensuring completeness in the treatment of your
22 testimony there, I want to ask you to look at a few
23 more passages.

24 Working our way back, I'd ask you to look
25 at -- Mr. Walczak asked you to look at a question and

1 answer series at the bottom of Page 153. Would you
2 look at 153 and see if you can see that passage you
3 were asked to look at.

4 A. Okay, I see the page. Remind me what I'm
5 supposed to be looking at.

6 Q. Sure. Starting at -- look at 19. It says,
7 Question: Okay. And 20, you say, No, so it's not
8 that kind of creationism. Mr. Walczak asked you about
9 the lines on 153 running over into 154. I want to ask
10 you to continue and read through 154 beginning at Line
11 3 down through Line 18, please, for the record.

12 A. For the record.

13 Q. Yes.

14 A. Okay. So starting with Mr. Rothschild's
15 question?

16 Q. Correct.

17 A. Okay. Mr. Rothschild says: Okay. And what
18 aspects of -- what do you mean by creationism when you
19 say intelligent design does have roots in creationism
20 or is creationist? Mr. Gillen: Objection to form.
21 The witness: Well, I mean the motivation. The
22 motivation for putting forward intelligent design is
23 from people who do think there is a divine creator. I
24 mean, I think historically that's been the case, and I
25 think it's probably true of these people. But, again,

1 what makes it science isn't that fact. I mean, again,
2 all kinds of religious motivations inform science. I
3 mean, so there's nothing, in a sense, by calling it
4 creationism. What I'm doing is I'm giving something
5 about the motivation of the people but not necessarily
6 about the scientific status of what they're doing.
7 Those are two separate issues. You've got context of
8 discovery, context of justification.

9 Q. Is that consistent with the testimony you
10 offered here today on your direct?

11 A. Yes.

12 Q. Okay. I'd also ask you to direct your
13 attention to Page 146. And you'll see, if you look at
14 145-146, you were asked questions about this,
15 Plaintiffs' Exhibit 788. And I want you to read your
16 testimony there as it relates to 146 beginning at Line
17 6 where you talked about this a.k.a.

18 A. Yes, so this is from the Public
19 Understanding of Science article.

20 Q. Right, beginning at Line 9.

21 A. The witness: But it's -- no, but it's not
22 all of creationism. And it's, in fact, a part of
23 creationism that gets taken into science. So, I
24 mean -- I mean, obviously I'm just -- because in the
25 time that this piece was written, right, so this was

1 written in 1998, intelligent design theory wasn't that
2 widely used as an expression, so I put the creationism
3 in there so people kind of have a sense of what
4 exactly intelligent design is without me having to
5 give a whole song and dance about it because I'm just
6 using it as an example. But I didn't mean to say that
7 everything about intelligent design corresponds to
8 everything about creationism.

9 Q. And what I want to get at, Steve, is to make
10 sure that's clear. Are you saying, again, that the
11 context of discovery is there are elements of
12 continuity, but with respect to the context of
13 justification there is what you regard as a critical
14 difference?

15 A. Yes, that's correct.

16 Q. And what is that critical difference?

17 A. Well, it has to do the way by which theories
18 are tested in intelligent design and validated, at
19 least in principle, by scientific means and also the
20 sort of people who are doing it are, in fact, people
21 who do have scientific credentials of some sort,
22 unlike the previous generation of people who are
23 associated with creationism. So there are some really
24 clear kinds of breaks that one can talk about both
25 philosophically and sociologically.

1 Q. In terms of the negative argument,
2 Mr. Walczak asked you if intelligent design theorists
3 make a negative argument against evolutionary theory,
4 that doesn't necessarily prove design. Let me ask
5 you, do evolutionary theorists make the same sort of
6 argument against design?

7 A. Yes. In fact, that's how I would
8 characterize the presentation that Professor Miller
9 did with the bacterial flagellum where he basically
10 showed that Professor Behe's thesis about irreducible
11 complexity was false and therefore it followed. That
12 was sort of the spirit in which the presentation was
13 being made. And therefore it follows from the natural
14 selection story.

15 Q. And, Steve, I'd ask you to look again at
16 Plaintiffs' 788 which is the piece on the First Global
17 Cyberconference on the Public Understanding of
18 Science. Turning your attention to Page 331.

19 A. Bear with me. Where?

20 Q. Certainly. Page 331.

21 A. Yes.

22 Q. You'll see there in that first full
23 paragraph the sentence that Mr. Walczak directed your
24 attention to beginning with "however."

25 A. Yes.

1 Q. I'd like you to read that sentence through
2 to the end to yourself.

3 A. To myself?

4 Q. Yes. And then I have a question.

5 A. Okay.

6 Q. Now, this is another place where you use
7 that a.k.a., and the portion of the sentence I'd like
8 to direct yourself to is the phrase which begins, As
9 well as the incorporation of religiously inspired
10 doctrines.

11 In light of that language usage on your part
12 in this piece, I'd like you to describe your purpose
13 in terms of the context of discovery versus the
14 context of justification.

15 A. Well, I'm only referring to the context of
16 discovery here, obviously, when one is talking about
17 religiously inspired.

18 Q. And so, again, for the purpose of clarity,
19 are you demonstrating that you see this connection as
20 one that is in the context of discovery, not
21 justification?

22 A. That's correct.

23 Q. If you would turn your attention back to
24 Plaintiffs' 429, the piece by Nelson.

25 A. The piece by Nelson, yes.

1 Q. You've indicated that this is not the sort
2 of big tent that you see intelligent design as. Is
3 that correct?

4 A. That's correct.

5 Q. And why is that?

6 A. Well, because this big tent that's being
7 described here is basically kind of a fig leaf for all
8 of the various forms of creationism that have ever
9 existed. And it seems to me that the -- what is
10 intellectually interesting and substantive and
11 continuous with the history of science in intelligent
12 design is kind of lost from this picture entirely.

13 Q. Well, and that's what I want to just make
14 clear from your direct this morning. When you speak
15 of intelligent design as having the possibility of
16 providing a big tent, do you mean a big tent of the
17 kind described in this piece?

18 A. No, I mean of reconfiguring the sciences as
19 they are -- the sciences, the things we normally call
20 science now, but reconfiguring what their
21 relationships are.

22 Q. So in terms of the context of justification,
23 would that be a big tent that is justified by what
24 you've called the coin of science?

25 A. By the what of science?

1 Q. The coin of science.

2 A. Yes.

3 Q. Mr. Walczak asked you some questions about
4 the statement and the fact that no -- there is no
5 discussion or questions. Do you know why --

6 A. No.

7 Q. -- there are no questions?

8 A. No.

9 Q. Do you know why there is no discussion?

10 A. No.

11 Q. But do you believe it would be useful in
12 terms of promoting scientific progress for there to be
13 discussion?

14 A. Yes.

15 Q. Given your training in the history and
16 philosophy of science and looking at intelligent
17 design theory as it exists today, would you anticipate
18 that a movement which aspires to an explanatory theory
19 at the level of generality proposed by at least some
20 intelligent design proponents to have advanced to the
21 stage where it could be engaged in an experimental
22 program?

23 A. It still needs to be developed a bit more,
24 but in principle it could. But it really does need
25 more adherence and more time to sort of develop the

1 implications of its views.

2 Q. Earlier Mr. Walczak asked you some questions
3 which looked at other sorts of scientific revolutions
4 or paradigm shifts, and there was a suggestion that
5 the case with intelligent design could be the same.

6 Do you see the situation confronted by
7 intelligent design proponents as different from that
8 of, say, the proponents of plate tectonic theory?

9 A. Well, I think there's a lot more opposition
10 at the moment to intelligent design theory in terms of
11 being able to get the institutional resources to be
12 able to reach the critical mass to mount a research
13 program.

14 I mean, because with all these examples that
15 Mr. Walczak brought up, there was still some
16 institutional ability to sort of pursue research, even
17 if it wasn't taken all that seriously at the time.
18 People could train, graduate students could get jobs,
19 and even though they were marginal, they were still
20 there in the system. But I think the problems facing
21 intelligent design are much more radical
22 institutionally.

23 Q. And in that regard, do you see the nature of
24 the opposition or the resistance as different in kind
25 in terms of metaphysical or ideological dimension?

1 A. Yes, that's true.

2 Q. Explain that just generally.

3 A. Well, I think generally it's -- the
4 religious motivation ends up blocking people from
5 taking the theory seriously. And, in fact,
6 intelligent design has some very natural affinities
7 with a lot of things going on in computer-driven forms
8 of artificial life and artificial intelligence
9 research that, in fact, there could be some alliances
10 forged there.

11 But I think at the moment, because it's
12 so -- there's such restricted access to it and there
13 are so few people who have an incentive to work on it,
14 that it isn't able to develop those kinds of
15 connections. And so that's why I would say it does
16 need to be mainstreamed.

17 Q. Mr. Walczak asked you some questions about a
18 piece authored by Behe. And I want to see if I
19 understand or if you need to further explain your
20 position. In terms of the dichotomy between context
21 of justification and context of discovery, from the
22 bit of Behe's article that you looked at, what do you
23 see Behe discussing there?

24 A. The context of discovery. And the word
25 "plausibility" suggests that to me. He says what

1 would make it plausible, right, to adopt an
2 intelligent design position would be if you believe in
3 the existence of God. He's talking about the context
4 of discovery, how would one use that as a heuristic
5 for doing research, who would be more attracted to it.
6 But he's not saying anything about how it would be
7 validated.

8 MR. GILLEN: I have no further questions,
9 Your Honor.

10 THE COURT: Thank you, Mr. Gillen.
11 Mr. Walczak, recross.

12 MR. WALCZAK: Just a few.

13 RE-CROSS-EXAMINATION

14 BY MR. WALCZAK:

15 Q. Dr. Fuller, you're making a distinction in
16 these theories between the discovery phase and the
17 justification phase?

18 A. Correct.

19 Q. And see if I understand this. Discovery is
20 sort of the formulation of the idea and you throw it
21 out there?

22 A. Yes. And it's how you come to the idea.
23 So, you know, what gets -- yeah.

24 Q. It's the hypothesis?

25 A. Hypothesis formation, formation.

1 Q. And the justification is the test, that's
2 where you subject it to empirical testing?

3 A. That's basically it.

4 Q. And, now, are you aware that young earth
5 creationists had a scientific component to their
6 theory?

7 A. No, I'm not aware of that.

8 Q. Have you ever --

9 A. I guess I'd like to know what it is before I
10 agree that it was scientific, at least by the likes
11 I've been using it.

12 Q. And I believe in your expert report you may
13 have referred to *Edwards versus Aguiillard*?

14 A. I referred to it somewhere, but I don't know
15 if it was in the expert witness report.

16 Q. You're familiar with that?

17 A. Yes, I am familiar with that.

18 Q. And that case involved something called
19 creation science?

20 A. Yes.

21 Q. And is it your understanding that they were
22 justifying creationism in the coin of science?

23 A. Well, I actually don't have enough
24 on-the-ground familiarity to know whether they -- I
25 mean, whether this was just a fig-leaf term "science"

1 or whether there was anything resembling what we would
2 call science there. So I can't really -- you know, I
3 mean, they may have been trying. I mean, obviously
4 using the word "science" suggests they were trying,
5 but whether it would pass my criteria of what science
6 is is another matter.

7 Q. And what I think I just understood you to
8 say is that in terms of all of these statements that
9 we've shown to you that you've testified about in
10 terms of creationism sharing some concept, some
11 verbiage with intelligent design, that's all on the
12 discovery side of the equation?

13 A. Yes. I mean, there's not that much
14 verbiage, actually, between creationism and
15 intelligent design these days, even. I mean, maybe
16 some motivational things, but in terms of even how the
17 hypotheses and theories are formulated in the research
18 programs, there's not a lot of overlap in the
19 language.

20 Q. But the way you've explained all of the
21 statements I read back to you where you were equating
22 intelligent design with creationism, say in this 1998
23 article, you're saying that's on the discovery side of
24 it?

25 A. Yes.

1 Q. So that's in the idea formulation phase?

2 A. Yes, what's motivating people, yeah, the
3 things that are animating their imaginations.

4 Q. But on the justification side when it comes
5 to intelligent design, that's the scientific testable
6 side?

7 A. Yes.

8 Q. And intelligent design has not yet made its
9 case on the justification side?

10 A. No, because it's not sufficiently developed
11 yet. You actually have to have more theory developed,
12 you have to have more interpretation of existing
13 phenomena to then be able to develop the appropriate
14 kinds of tests.

15 Q. And intelligent design has been around for
16 almost 20 years. Is that correct?

17 A. Has it? That sounds a bit long to me,
18 but --

19 Q. If *Of Pandas and People* was first published
20 in 1989 --

21 A. With all due respect, that's a textbook. I
22 mean, you don't use a high school textbook as a
23 benchmark of what science is.

24 MR. WALCZAK: I have no further questions.

25 THE COURT: All right. That will conclude

1 your testimony, Doctor. We thank you.

2 THE WITNESS: Thank you.

3 THE COURT: You may step down. We have a
4 couple of exhibits which we should take now. We have,
5 on direct, the CV, which is D243. Move for the
6 admission of 243?

7 MR. GILLEN: I do, Your Honor.

8 THE COURT: Any objection?

9 MR. WALCZAK: No, Your Honor.

10 THE COURT: D243 is admitted. On cross we
11 have the article by the witness that's P787. Are you
12 moving for the admission of that, Mr. Walczak?

13 MR. WALCZAK: Yes, Your Honor.

14 THE COURT: Any objection?

15 MR. GILLEN: Well, actually, no, I guess
16 not. That's fine.

17 THE COURT: It's his own article.

18 MR. GILLEN: Yes.

19 THE COURT: Well, then without objection,
20 P787. Have I missed anything from either plaintiffs'
21 or defendants' standpoint? Any exhibits?

22 MR. WALCZAK: I have 788 as not in, Your
23 Honor, the First Global Cyberconference.

24 MR. GILLEN: Likewise, no objection to that,
25 Your Honor.

1 THE COURT: That's admitted. P788 is
2 admitted.

3 MR. WALCZAK: I believe that's it, Your
4 Honor.

5 THE COURT: All right. From defendants'
6 standpoint, any additional exhibits?

7 MR. GILLEN: Not at this time, Your Honor.

8 THE COURT: For this witness. All right.
9 Well, I guess we're going to pick up the testimony of
10 the assistant superintendent, but it's late in the
11 day. It seems late to endeavor to start that. Do you
12 agree?

13 MR. GILLEN: I do agree, Your Honor. Could
14 we have a sidebar?

15 THE COURT: You may. Thank you.

16 (The following discussion was held at
17 sidebar:)

18 MR. GILLEN: Your Honor, as Liz is bringing
19 the hammer down, I have reluctantly agreed to do
20 Friday and Monday. I wanted to meet with you to ask
21 your forbearance. Bill Buckingham is coming Thursday.
22 The reporters are scheduled for Thursday. I see Mike
23 Baksa continuing on Friday. I will do my best to
24 prepare another witness for that day, and I know I can
25 get someone here, but I might not be able to fill the

1 whole day.

2 THE COURT: I understand that. I told Liz
3 that that's no harm, no foul. I don't want to put you
4 in a difficult spot. These are days I can open up.
5 And I really would like to not extend past next week,
6 and so I thought the greater caution would be to open
7 the days up, if that's acceptable to everybody. And
8 if you can't fill a day, that's fine. I hope you'll
9 try.

10 MR. GILLEN: I will try, Your Honor. I want
11 this over as much as the next one.

12 THE COURT: I have a creeping concern which
13 hasn't elevated to the point of hysteria. Perhaps it
14 is for Liz, but not with me. And that's why we're
15 opening up these days. If we end up with an early
16 quit on Friday -- I was going to be here doing case
17 management conferences anyway. It seems absurd for me
18 to spend time doing that when we could open up a trial
19 day. Monday I had a sentencing hearing all day, and
20 it was not a problem to move that to next month. I
21 know you have travel issues and other things, and I
22 don't want to put you in a difficult spot, but on the
23 other hand --

24 MR. GILLEN: All good things must come to an
25 end.

1 THE COURT: Yes. But it seems to me that
2 the plaintiffs have been good about --

3 MR. GILLEN: They have.

4 THE COURT: -- taking witnesses out of
5 order. And if we shuffle Baksa back in the deck, I
6 don't think that that's going to be a problem for you.

7 MR. ROTHSCHILD: And if we end a little
8 early on October 31st so I can get home for trick or
9 treat, also no objection.

10 THE COURT: I'm past trick or treat.

11 MR. ROTHSCHILD: You can come to my
12 neighborhood.

13 THE COURT: What costume would I wear?

14 MR. GILLEN: But that was my request, and I
15 thank you, Judge, for your forbearance.

16 MR. WALCZAK: I don't know how long you
17 expect Mr. Buckingham to go on Thursday, but I don't
18 know that the reporters are going to take a half a
19 day, so we may have some time Thursday to finish
20 Baksa.

21 MR. GILLEN: Okay. And I frankly can't be
22 sure. I think Mike is -- my guess is, just because of
23 the paper that he's responsible for, will take the
24 morning and maybe just a little bit of the afternoon
25 on Friday.

1 MR. WALCZAK: On direct.

2 MR. GILLEN: Yeah. There's just a lot of
3 paper with him. He was the gatekeeper.

4 THE COURT: Who is that?

5 MR. GILLEN: Mike Baksa.

6 THE COURT: So Thursday you anticipate doing
7 what?

8 MR. GILLEN: Buckingham, the reporters, and
9 if I have to do Mike, I guess I'll try and --

10 MR. WALCZAK: The other option is -- and
11 I've talked to Niles Benn, and he said the earliest he
12 could do it is the 27th -- we could do the reporters
13 later.

14 THE COURT: No, get Benn while you can. I
15 don't want to get another call from Benn. We're going
16 to get Benn here. You told him Thursday, you're going
17 to do the reporters on Thursday. I don't want --

18 MR. GILLEN: Thursday it will be.

19 THE COURT: I don't want another excuse as
20 to why he can't come in here, medical or otherwise.
21 If I have to get an ambulett to bring Mr. Benn in,
22 we're going to have the reporters' testimony.

23 MR. ROTHSCHILD: The other thing is, I think
24 we still have to do the Nilsen exhibits. We can do
25 that on Thursday or Friday, as well.

1 MR. GILLEN: Yes.

2 MR. WALCZAK: We have the expert exhibits.
3 We have Padian, Miller.

4 MR. GILLEN: Right.

5 THE COURT: We'll take care of that. But
6 we'll open it up for Friday, for the 28th, and Monday
7 the 31st. And Liz will execute me for saying this,
8 but if worse came to worse, I mean, I can't make you
9 do what you can't do, and if you don't finish by the
10 end of next week, I'm going to let you try your case,
11 and I'll have to do what I have to do, so you
12 understand that.

13 I'm just trying, as much as I can, given
14 everybody's schedules -- you know, I want to give
15 everybody an opportunity to put their case on, so if
16 we have to go further, we'll go further. But I'd like
17 to try to add days within the weeks that we set rather
18 than to add them --

19 MR. GILLEN: I appreciate the consideration.

20 THE COURT: I have my whole docket being
21 compressed back to the end of the year, and I'm
22 supposed to start criminal trials that following week.

23 MR. GILLEN: I feel like my whole life is
24 being compressed.

25 THE COURT: I feel similar. All right.

1 Thanks, fellows.

2 MR. WALCZAK: Thank you.

3 MR. ROTHSCHILD: Thank you.

4 (The discussion at sidebar was concluded.)

5 THE COURT: All right. The consultation
6 with counsel at sidebar was for the purpose of
7 scheduling. Let me make this announcement. We are
8 now, with the cordial agreement of all counsel, going
9 to -- in addition to the trial date previously
10 scheduled for October the 27th, which is Thursday, we
11 will now sit on Friday for as long as we can. It may
12 be a full-day session or it may not, depending upon
13 the availability of witnesses on somewhat short
14 notice. So we will sit on Friday the 28th.

15 We will likewise sit on Monday the 31st of
16 October. We're adding that as a trial day next week,
17 as well. I think that is our fourth trial day now
18 next week. I think we had previously scheduled three
19 trial days. Am I correct, Counsel?

20 MR. GILLEN: Yes.

21 THE COURT: So that will add day four in an
22 effort to conclude this matter by the end of next
23 week, if at all possible, with the cooperation of
24 counsel and the parties. So we'll have two more trial
25 days this week, one more the following week. We have

1 a total of three this week and then four next week.

2 With that, we'll then adjourn today, and we
3 will be in recess until Thursday morning the 27th when
4 we will reconvene at 9:00 a.m. on that day. We'll see
5 you then. Thank you.

6 (Whereupon, the proceedings were adjourned.)

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CERTIFICATION

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

Dated in Harrisburg, Pennsylvania, this 26th day of October, 2005.

/s/ Lori A. Shuey
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