

IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF PENNSYLVANIA
CIVIL ACTION NO. 4:04-CV-2688

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TAMMY J. KITZMILLER;)
BRYAN REHM, CHRISTY REHM;)
DEBORAH F. FENIMORE;)
JOEL A. LIEB; STEVEN STOUGH;)
BETH A EVELAND; CYNTHIA)
SNEATH; JULIE SMITH;)
ARALENE D. CALLAHAN)
("BARRIE"); FREDERICK B.)
CALLAHAN,)

Plaintiffs,)

vs.)

DOVER AREA SCHOOL DISTRICT;)
DOVER AREA SCHOOL DISTRICT)
BOARD OF DIRECTORS,)

Defendants.)

D E P O S I T I O N

O F

W A R R E N

A.

N O R D,

P H . D .

A P P E A R A N C E S
For the Plaintiffs: Mr. Alfred H. Wilcox
PEPPER HAMILTON, L.L.P.
3000 Two Logan Square
Eighteenth and Arch Streets
Philadelphia, PA 19103-2799

For the Defendants: Mr. Patrick Gillen
THOMAS MORE LAW CENTER
P. O. Box 393
Ann Arbor, MI 48106

In Chapel Hill, N.C. Reported by:
June 7, 2005 Rebecca R. LeClair, CVR

1 Stipulations

-2-

2 S T I P U L A T I O N S

3 It is hereby stipulated and agreed between the
4 parties to this action, through their respective counsel of
5 record:

6 (1) That the deposition of WARREN A. NORD, PH.D.,
7 may be taken on June 7th, 2005, beginning at 9:07 A.M., at
8 the University of North Carolina at Chapel Hill, Program in
9 the Humanities and Human Values, located at 1700 Airport
10 Road, Room L-03, Chapel Hill, North Carolina, before
11 Rebecca R. LeClair, CVR, a Notary Public.

12 (2) That the deposition shall be taken and used as
13 permitted by the applicable Federal Rules of Civil
14 Procedure, and formal opening is hereby waived.

15 (3) That any objections of any party hereto as to
16 notice of the taking of said deposition or as to the time
17 or place thereof, or as to the competency of the person
18 before whom the same shall be taken, are deemed to have
19 been met.

20 (4) Objections to questions and motions to strike
21 answers need not be made during the taking of this
22 deposition, but may be made for the first time during the
23 progress of the trial of this case, or at any pretrial
24 hearing held before any judge of competent jurisdiction for
25 the purpose of ruling thereon, or at any other hearing of
26

1 Stipulations

-3-

2 said case at which said deposition might be used, except
3 that an objection as to the form of a question must be made
4 at the time such question is asked, or objection is waived
5 as to the form of the question.

6 (5) That the witness reserves the right to read
7 and sign the deposition prior to filing.

8 (6) That the sealed original transcript of this
9 deposition shall be mailed first-class postage or
10 hand-delivered to the party taking the deposition for
11 preservation and delivery to the Court, if and when
12 necessary.

13

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* * * * *

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Whereupon,

20

WARREN A. NORD, PH.D.,

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having been first duly sworn,

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was examined and testified

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as follows:

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1 DIRECT EXAMINATION BY MR. WILCOX:

2 Q Dr. Nord, have you ever had your deposition taken
3 before?

4 A No.

5 Q Okay. Let me just rehearse for you a little bit
6 what the process is. As Mr. Gillen has probably
7 already mentioned to you, I get to ask questions.
8 Your obligation is to answer them. If you don't
9 understand my question, just tell me. This is
10 less-familiar terrain for me than it is for you, so
11 it's entirely possible that my questions will not
12 make sense to you. And if so, don't answer it;
13 just tell me that--

14 A Okay.

15 Q --you can't understand that question and would I
16 please try to do better, and I will. At any time
17 you'd like to take a break, walk around, clear your
18 head, use the facilities--this is not an endurance
19 test. It is--

20 A All right.

21 Q --a search for your views as they pertain to this
22 matter.

23 A Good.

24 Q I would like to begin by asking you to define some
25

1 terms that appear in the Rule 26 disclosure
2 statement that has been produced in this case.

3 A Yeah. That's the--whatever the--yes.

4 Q And why don't we just mark one of these as Nord
5 Exhibit 1 so we have a clear record of what we're
6 talking about.

7 (PLAINTIFF'S DEPOSITION EXHIBIT NO. 1
8 MARKED FOR IDENTIFICATION)

9 Q Has the reporter now marked a copy of your report
10 as Plaintiff's Deposition Exhibit 1 for the Nord
11 deposition?

12 A (Examines paperwritings.) Yes.

13 Q In the first paragraph of your report, you refer to
14 something described as "culture wars," or "our
15 culture wars." Do you see that? It's in about the
16 third line from the bottom?

17 A (Examines paperwritings.)

18 Q You say, "In both books, my aim has been to chart a
19 middle course in our culture wars."

20 A No, I'm--

21 Q It's in the first paragraph.

22 A Oh, in the first paragraph. Okay.

23 Q Yes.

24 A (Examines paperwritings.) Yes.

25

1 Q Could you explain or define for me what you mean by
2 "our culture wars"?

3 A You're starting with an easy question. Well,
4 that's--that's a tricky question, because there--
5 what counts as our culture wars is something that
6 scholars and--and nonscholars disagree about. But
7 I suppose that--I think of James Davison Hunter's
8 book on--on culture wars as being the most
9 interesting and helpful discussion.

10 Q Excuse me. Let me try again. I'm asking for your
11 definition.

12 A Okay. I'm going to say I agree with James Davison
13 Hunter. Our culture wars are--to some extent,
14 culture wars are between religious folk and--and
15 secular folk. But as Hunter points out--and I
16 agree--more often, they're between liberal folk and
17 conservative folk. And these wars have to do with
18 how we define reality; how we make sense of
19 reality; how we make sense of values; what the
20 authority is for our moral judgments, our value
21 judgments, our political judgments, our religious
22 judgments.

23 And there's a kind of cleavage that runs
24 through our culture that we see in political

25

1 campaigns, we see in certainly fights over religion
2 in schools, between--Hunter calls them progressives
3 and the orthodox. Most people would say between
4 liberals and conservatives. By and large, the
5 religious view becomes identified as the
6 conservative view; the liberal view is--becomes the
7 secular view. I think that's kind of unfortunate,
8 because there are liberal religious folk and there
9 are secular conservative folk, and that's why it
10 gets so incredibly complicated.

11 But the point is--I think the fundamental
12 point is that there are some fairly deep divisions
13 in our culture--that have roots in religiously how
14 we make sense of the world, morally how we make
15 sense of the world, politically how we make sense
16 of the world--that divide us, that we're constantly
17 fighting over, and that shape an awful lot of the
18 battles that go on over--over education. I could
19 get a whole lot more specific, but--

20 Q Okay.

21 A --that's the general overview.

22 Q As it pertains to the issues in this case--

23 A Uh-huh (yes).

24 Q --would you say we're talking about the culture

25

1 wars or different perspectives on how we define
2 reality?

3 A Yes.

4 Q Okay. One of the--one of the outposts, if you
5 will, on that issue, how we define reality--we're
6 talking evolution or not?

7 A That's oftentimes the way it gets worked out. That
8 is to say, I think there's the general perception
9 that there are fundamentalists, who believe in
10 Genesis creation, and then there's all the rest of
11 us reasonable folk. And certainly one of the
12 things that I want to--I've wanted to do in a lot
13 of my work is break down that distinction and say
14 it's a whole lot more complicated. So that, for
15 example, on the question of evolution, there aren't
16 just two positions; there are seventeen positions,
17 or maybe fourteen, or twenty-one. I don't know.

18 And--and so one of the interesting
19 questions is that, well, one can certainly be
20 religious and accept evolution, so one has to be
21 more specific. And--and then the question goes to
22 neo-Darwinism and what--kind of establishment
23 science views of evolution, and whether there are
24 alternative ways of understanding evolution.

25

1 So that the culture wars kind of
2 mentality oftentimes cause us--and the media
3 certainly exacerbate this--to focus--to--to push us
4 into two opposing camps, when a lot of the purpose
5 of my work has been to muddy the waters and to say
6 it's not nearly that simple.

7 Q Okay. You used a phrase, "neo-Darwinism," which
8 appears in the second paragraph of your--

9 A Yes.

10 Q --report. And could you tell us what you mean by
11 "neo-Darwinism"?

12 A Well, I take the neo-Darwinian synthesis to be the
13 combination of Darwin's theory of evolution, which
14 focuses on natural selection as the mechanism of
15 evolution, together with modern genetics, that
16 provide an account of what natural selection works
17 on, genes, and in this case, the random mutation
18 and recombination of genes.

19 The significance--well, I'll let you ask
20 the questions.

21 Q And in that same paragraph, the second paragraph
22 of--

23 A Uh-huh (yes).

24 Q --your report, you refer to intelligent-design

25

1 theory, or--

2 A Yes.

3 Q --IDT.

4 A Uh-huh (yes).

5 Q And if you would, what is your understanding as to
6 what IDT is?

7 A I take IDT to be a theory held by a number of
8 scientists--Michael Behe, William Dembski, Stephen
9 Meyer. I mean, Phillip Johnson has certainly--
10 although he's not a scientist, has certainly done
11 an awful lot to define the movement. The
12 fundamental idea being that natural selection isn't
13 able to explain much--that it's not adequate for
14 explaining much of what needs to be explained in
15 biology, and that design explanations are a
16 legitimate al--provide a legitimate alternative
17 explanation, one which--which seems to have a good
18 deal to--design explanations have a good deal to
19 say for--well, let me back up.

20 In the--particularly in the absence of
21 naturalistic explanations, Darwinian explanations,
22 in certain important points in--in biology and
23 particularly in dealing with evolution, design
24 explanations seem to provide a much better account

25

1 of what--what happened than the--the kind of
2 gradualistic, neo-Darwinian mechanisms of--of
3 establishment biology.

4 Q When you say "in the absence of a Darwinian
5 explanation," are you referring to anything more
6 than that Darwinian explanations currently are not
7 able to--

8 A Yeah.

9 Q --answer--

10 A That's a good question. And--and of course--I
11 mean, I can see right now that I didn't answer your
12 last question very well, because in--in many cases,
13 it's not just the absence of a Darwinian
14 explanation which then opens the door for a design
15 explanation.

16 I think the kind of argument that many of
17 the ID theorists would make is that--particularly
18 because of irreducible complexity, or specified
19 complexity for Dem--in Dembski, that we--we get--
20 that--that design explanations seem to be the
21 particularly appropriate kinds of--of explanations
22 in those cases where the complexity of the
23 phenomenon to be--to be explained seems irreducible
24 in some sense. So it's not just that there's not a
25

1 naturalistic explanation that's forthcoming; it's
2 that the design explanation fits the--the phenomena
3 better, the evidence better.

4 Q And would you agree that in addition to there
5 having had to have been a design, there had to have
6 been a prototype, or two, of those designs to get
7 things moving? You can't just have a--a real
8 biological observation that was designed without
9 having had something put that design into effect.
10 Would you agree with that?

11 A Are you--are you asking whether there's a designer?

12 Q Well, not just--

13 A Is that the question?

14 Q --a designer but also a creator--

15 A Yeah.

16 Q --to take that design and put it into real--the
17 real world.

18 A Well, you know, the usual ID explanation is that
19 what science, as they understand science, is
20 capable of doing is--is providing a convincing
21 design explanation, but that that leaves us well
22 short of any account of how the design got there.

23 And it seems to me that that's a
24 reasonable position to take, that--that science,

25

1 somewhat more liberally understood than
2 establishment science, can get us to design, but
3 moving beyond the--the design to--to a designer or
4 an explanation of how the design got there is a
5 question of a different kind probably. There,
6 perhaps, philosophical or theological kinds of
7 reasoning may be appropriate or may even be
8 necessary.

9 And--and that--that position makes sense
10 to me. I mean, I think all the time, I mean, just
11 on a kind of common-sense level, we can recognize
12 design in the world, in our world, in all kinds of
13 ways, without having any idea who put it there or
14 why it was put there. And, I think, similarly,
15 in--in nature, one could recognize design but still
16 not have any idea of how the design got there.
17 And--and one might even want to say that, as I
18 said, that's a different kind of question.

19 Q If I understand your view on this--and don't be
20 reluctant, and I'm sure you won't be, to tell me if
21 I'm mistaking something--you understand intelligent
22 design to be an inference based on observations
23 made in the real world.

24 A Yes. So far, so good.

25

1 Q And the inference that is made specifically is that
2 something we humans would recognize as design
3 appears in parts of the natural world.

4 A Yeah.

5 Q So far, so good?

6 A So far, so good.

7 Q Intelligent-design theory, as you understand it,
8 stops there and doesn't go beyond that to argue as
9 to the nature of the designer, the process by which
10 the design became manifest in the world--

11 A Uh-huh (yes).

12 Q --or any like question. Is that--

13 A Yeah. I--I don't doubt that intelligent-design
14 theorists--many of them have various philosophical
15 and theological convictions, or accounts,
16 explanations, that they might offer, in a
17 nonscientific context, for explaining design. But
18 my understanding is that they want to draw a fairly
19 sharp line between what they can say as scientists
20 about design and other questions about the--the--
21 how the design came to be and the nature of the
22 designer, which then become nonscientific
23 questions, philosophical or theological questions.

24 Q As you understand the controversy surrounding
25

1 Darwin's theory of evolution, is it a controversy
2 between intelligent-design theory on the one hand
3 and neo-Darwinism on the other hand?

4 A That's the--the kind of flash point for the debate
5 in--in our culture now. And those are the--the--

6 Q Fifty years ago, it might have been--

7 A Fifty years ago--

8 Q --creationism?

9 A --it would have been young-earth creationism. And
10 so that's--that's the--the most visible point of--
11 the--the most visible war--or battle in our culture
12 wars now.

13 But those aren't the only two positions.
14 That's true. Theologians and philosophers take a
15 lot of--a lot of different positions.

16 Now, within science, I mean, there, the
17 question, of course--the controversy is, is it
18 science? And--and, you know, I--I'm not a
19 philosopher of science, and I'm not a scientist, so
20 I--I confess that I cannot speak with great
21 authority here. I would say that someone like
22 Stuart Kauffman's views of--of complexity theory
23 and self-organizing phenomena in--in nature might
24 be another alternative. But it's--it's certainly

25

1 the major alternative insofar as the--the battle
2 is--is conveyed to the--to the larger public
3 through--through the media, yeah.

4 And--and I would say, too, I suppose,
5 within--within science itself or on the edges of
6 science, it's a--it's a battle that--that--or an
7 argument that's going on that's--that's widely
8 noted--noticed, and oftentimes responded to, by
9 scientists, so--establishment scientists.

10 Q Let me shift gears dramatically--

11 A Okay.

12 Q --and just touch on something that we have to
13 cover.

14 A Uh-huh (yes).

15 Q And basically, this is going to be a series of
16 questions by which I try to define how you prepared
17 for your opinion here, and more particularly, what
18 you might not have done--

19 A Uh-huh (yes).

20 Q --in preparing for your opinion here. Did you meet
21 with any of the defendants?

22 A No.

23 Q Did you meet with any of the teachers--

24 A No.

25

1 Q --at Dover Area Schools, or any of the
2 administrators?

3 A No. Uh-uh (no).

4 Q Did you read the biology textbook that the--

5 A No.

6 Q --Dover Area School uses?

7 A Uh-uh (no).

8 Q Did you read Of Pandas and People?

9 A I read it a long time ago, I guess shortly after it
10 first came out, probably--what was that, late '80s,
11 early '90s? Late '80s? A long time ago. I don't
12 remember when I read it. And--and I confess I
13 didn't read it carefully, but, you know, I got
14 something of the gist of it.

15 Q And did you reread it--

16 A No.

17 Q --for your opin--

18 A No.

19 Q --your opinion here?

20 A No.

21 Q Did you read the Dover Area School District "Board
22 Press Release"?

23 A Yes, I did.

24 Q Let me mark that Exhibit 2.

25

1 (PLAINTIFF'S DEPOSITION EXHIBIT NO. 2

2 MARKED FOR IDENTIFICATION)

3 Q And has the reporter now marked as Exhibit 2--

4 A (Examines paperwritings.) Yes.

5 Q --the press release that you referred to?

6 A Uh-huh (yes).

7 Q And did you read the District note on the teaching
8 of evolution?

9 A No.

10 Q (Hands paperwritings to the witness.)

11 A (Examines paperwritings.) Well, this is the same--
12 this is incorporated into the press release.

13 Q Okay.

14 A Yeah. Yeah. So I have read that, yes.

15 Q All right.

16 (PLAINTIFF'S DEPOSITION EXHIBIT NO. 3

17 MARKED FOR IDENTIFICATION)

18 Q There is a slight difference between what's in the
19 press release and the District note.

20 MR. GILLEN: Can I see a copy, Chub?

21 MR. WILCOX: Sure. (Hands paperwritings
22 to Mr. Gillen.)

23 MR. GILLEN: Thanks.

24 Q (By Mr. Wilcox) The District note concludes with
25

1 the following--no. I'm sorry. I take it back.

2 That's just paragraphed differently. Never mind.

3 Did you read any other materials
4 describing the Dover School District policy or the
5 implementation of that policy? And by "policy," I
6 refer to the one on teaching evolution.

7 A I read--you know, I have read in the past a few
8 newspaper stories about it, I guess.

9 Q Okay.

10 A That's pretty fuzzy in my mind, and it's some time
11 ago.

12 Q Did you read the complaint or the answer?

13 A No. Uh-uh (no).

14 Q Were you forwarded materials by counsel in the case
15 for you to review in connection with the
16 preparation of your opinion?

17 A No, not before the opinion, I don't think.
18 Afterwards, I read some of the--the testimony of
19 other witnesses, but--but, I think, nothing--I
20 think the only thing I received was this--
21 (indicating)--before I wrote my opinion.

22 Q "This" referring to Nord Exhibit 2?

23 A Yes.

24 MR. GILLEN: Is this my copy, Chub?

25

1 MR. WILCOX: Oh.

2 MR. GILLEN: Is this two?

3 MR. WILCOX: (Hands paperwritings to Mr.
4 Gillen.)

5 MR. GILLEN: Thanks.

6 MR. WILCOX: Sure.

7 MR. GILLEN: Thank you.

8 Q (By Mr. Wilcox) Can you--can you recall any other
9 people you talked with in connection with the
10 preparation of your opinion in this case?

11 A Well, just Pat. And Rob Muise. They're the only
12 two.

13 Q And can you recall any other papers that you
14 reviewed in connection with the preparation of your
15 opinion?

16 A No. I--we--I agreed to be--am I witness? Is that
17 what I--

18 Q An expert witness.

19 A An expert witness. I agreed to be an expert
20 witness very shortly before the testimonies were
21 due, and there wasn't time to do anything. So--so,
22 no, I don't--I don't think that--I know there was
23 probably a per--well, I mean, we--we talked a--
24 (addressing Mr. Gillen)--you asked me to be it, and

25

1 then there was a kind of lull of a few--

2 Q "You" referring to Mr. Gillen?

3 A To Mr. Gillen.

4 Q Okay.

5 A And--and then there was a lull of a few weeks,
6 and--and then, as I recall, a deadline, a looming
7 deadline, and I didn't have time to do any new
8 research. I've read--I teach about this a little
9 bit, and--and I've read a fair amount. I didn't
10 feel the need to do any--any more research, but I--
11 I didn't take the limited opportunity I had to do
12 more reading.

13 Q I also have to go through your qualifications--

14 A Yes.

15 Q --relative to rendering an opinion in this case.

16 A Uh-huh (yes).

17 Q Am I correct that you are not a scientist?

18 A I am not a scientist.

19 Q And specifically, you are not a biologist?

20 A That's right.

21 Q And you have not--well, I shouldn't say it that
22 way. Let me ask. What courses, college level or
23 higher, have you taken in biology or life sciences?

24 A None. Oh, no, not in--not in life sciences, no. I

25

1 did study chemistry and--but not biology--in
2 college.

3 Q Okay. Have you ever sat on a school board?

4 A No.

5 Q Have you ever taught secondary--

6 A No.

7 Q --level students?

8 A Uh-uh (no).

9 Q Have you ever served as a school administrator in
10 the secondary level?

11 A No.

12 Q Now, what you have done is thought a lot about
13 issues having to do with the intersection of
14 science and religion?

15 A Yes.

16 Q Especially as they intersect in education?

17 A Yes.

18 Q And even more particularly, as they intersect in
19 public education?

20 A Yes.

21 Q And you have read on the ways in which the courts
22 in the United States have commented on that
23 intersection?

24 A Yes.

25

1 Q Am I correct that, in your opinion, education needs
2 to do more than it currently does to treat religion
3 fairly?

4 A Yes.

5 Q And am I correct that in order to treat religion
6 fairly, in your view, schools, including public
7 schools, should not refrain from providing
8 instruction on religious implications of the
9 curriculum that is otherwise taught in public
10 schools?

11 MR. GILLEN: Objection to the form. You
12 can answer.

13 THE WITNESS: Oh, I can go ahead and
14 answer?

15 A Yes. I'm happy to give an explanation.

16 Q Please do.

17 A It--it does seem to me that for a variety reasons,
18 including the nature of liberal education, the--the
19 nature of constitutional neutrality, as the Supreme
20 Court has defined it, and kind of civic obligations
21 that stem from the public nature of education, that
22 public schools need to be sensitive to and respond
23 to the larger kind of cultural discussion that
24 we're having about various important issues, and

25

1 include all of the voices in that discussion. And
2 some of those voices are religious voices.

3 So that it seems to me to be
4 inappropriate to simply limit education to
5 secular--even in public schools--to simply secular
6 education and ignore religious points of view on
7 those kinds of issues and topics addressed by
8 traditional--the--the disciplines defined as they
9 are in totally secular ways.

10 Q Among the life sciences, is there an issue framing
11 more clearly the need for public education to treat
12 fairly with religious views--I've gotten myself
13 lost in my question, so let me back up and start
14 over.

15 A I'll get myself lost in the answer, so that's fine.

16 MR. GILLEN: I don't think there's one of
17 us who hasn't done that so far.

18 Q In your view, is the question of evolution
19 freighted with religious views?

20 A Yes.

21 Q And would you explain why you believe that to be
22 so?

23 A I guess there are a lot of reasons. The reason
24 back in the 1920s that evolution became such a hot

25

1 issue was because of the rise of fundamentalism and
2 the belief that--

3 Q By "fundamentalism," you're referring to Christian
4 fundamentalism?

5 A Protestant--more specifically, Protestant
6 fundamentalism, which defined itself in terms of
7 the inerrancy of scripture.

8 And once--and that was the--that was
9 the--fundamentalists believed in a lot of things,
10 but--but that was perhaps the most important
11 defining principle of Protestant fundamentalism,
12 was the inerrancy of scripture in response to the
13 growing liberalization of--of mainline-religion
14 Protestantism in America.

15 And once--once it was believed that
16 scripture was without error, in a kind of natural
17 literalism that goes to it, then Genesis has to be
18 read literally. And then we've got a conflict with
19 evolution that--that really wasn't there until the
20 rise of fundamentalism. My understanding is that
21 evangelicals and conservatives had--had pretty much
22 accepted evolution before the rise of
23 fundamentalism.

24 So, that's certainly--that--that's what

25

1 gives rise to the controversy, and I think--and the
2 Scopes trial, of course. And that still is what
3 frames so much of the public discussion.

4 But that's not the only issue. I mean,
5 another issue--and one more relevant, I suppose, to
6 this case--is the question of neo-Darwinism in
7 particular, rather than evolution in general, and
8 the--the fact that neo-Darwinism is a purposeless
9 process, an unguided, purposeless process that's
10 built into the structure of neo-Darwinism. So that
11 many more-moderate and liberal religious folk who
12 have no trouble with evolution might still have a
13 problem with--with neo-Darwinism as the--as the
14 mechanism that explains evolution.

15 So the question is a--is a problem that
16 many liberal religious folk have, although I think
17 this is oftentimes lost in the culture-wars
18 rhetoric, that evolution is--is evolution designed
19 or not; does it have a purpose of not?

20 So, yes, I mean, people who--religious
21 folk who aren't fundamentalists oftentimes have
22 difficulties with neo-Darwinian evolution in--in
23 particular. And then there are various kinds of
24 philosophical problems and problems that

25

1 theologians raise about--about evolution, too,
2 that--that don't become part of our culture-wars
3 battles.

4 Q You said that neo-Darwinism is an unguided
5 process--

6 A Yeah.

7 Q --as currently explicated by Darwinian
8 evolutionists.

9 A Uh-huh (yes).

10 Q In contrast, you posit that there are religious
11 adherents who would--who are uncomfortable with the
12 notion of a purposeless--

13 A Uh-huh (yes).

14 Q --biology--

15 A Uh-huh (yes).

16 Q --and would have greater comfort with a biology
17 that countenanced a purpose to life--

18 A Yes.

19 MR. GILLEN: Object to the form. Go
20 ahead.

21 Q --that purpose, as I understand it, being derived
22 from a god.

23 A Uh-huh (yes).

24 MR. GILLEN: Object to the form.

25

1 Q So, to be clear as to the culture wars--

2 A Uh-huh (yes).

3 Q --on one side of a divide, wherever the divide
4 might be, there are secularists, who are content to
5 view life and its evolution as undirected--

6 A Uh-huh (yes).

7 Q --and there are religious--I don't want to say
8 "adherents," but believers--who view life as filled
9 with purpose.

10 MR. GILLEN: Objection to the form.

11 Q Would that be correct?

12 A Yes.

13 Q And in your view, education, including public
14 education, should present both sides of--

15 MR. GILLEN: Objection to the form.

16 Q --those worldviews.

17 MR. GILLEN: I'm sorry, Chub. And let me
18 just cut this short. One, if you would--Chub's
19 asking questions; it's a complicated subject
20 matter--let him finish his question before you
21 answer, so I can at least make a record about
22 objections--

23 THE WITNESS: Okay.

24 MR. GILLEN: --just to the form of the

25

1 question, 'cause it's a complicated thing. I'm
2 sorry, Chub, for cutting you off.

3 MR. WILCOX: Sure.

4 MR. GILLEN: Can--can you answer his
5 question?

6 THE WITNESS: Would you tell me the
7 question?

8 MR. GILLEN: I'm sorry, Chub.

9 MR. WILCOX: Sure.

10 MR. GILLEN: Can she read it back
11 perhaps?

12 MR. WILCOX: Can--can it be repeated for
13 us?

14 MR. GILLEN: Yeah.

15 (DISCUSSION OFF RECORD)

16 (Whereupon, questions, answers, and objections on
17 Page 28 of this transcript, beginning at Line 1
18 and ending at Line 16, were read back.)

19 A Yes, but the "both sides" is--is a bit of a problem
20 because, as I suggested, there are various kinds of
21 concerns and problems that different kinds of
22 religious folk have with evolution, as I said,
23 between the kind of Genesis creationists and--and
24 more liberal folk who--for whom the problem is

25

1 purpose and design.

2 The other kind of concern I have, I
3 suppose, is--is that while the--while I--while I
4 am--while I do agree that public schools--and
5 public universities, for that matter--have some
6 obligation to include religious voices regarding
7 understandings of nature in the--in the--in the
8 curricular conversation, that that's a different
9 question, I take it, than the one this case is
10 about, which is scientific alterna--alternative
11 scientific ways of understanding nature.

12 So that I want--I would want to
13 distinguish my, kind of, culture-wars analysis and
14 my large--the larger framework I use to talk about
15 religion in education from the question of
16 intelligent design, which I do view as being
17 scientific, as being a science understood a little
18 bit more liberally than--than current science is,
19 rather than as a religious position.

20 So I--I just want to make--make clear
21 that--that there are two different kinds of
22 arguments that I would give, one for including
23 religious voices in the conversation--perhaps in
24 science classes, perhaps not--and then the case at

25

1 hand with regard to intelligent design, which seems
2 to me to involve a different set of issues.

3 Q In that answer, you said--and I think you said
4 something like this earlier--that IDT, or
5 intelligent design, is scientific if science is
6 understood more liberally--

7 A Yes.

8 Q --than the National Academy of Sciences, for
9 example--

10 A Yes.

11 Q --might describe it. And I would--I'd like to
12 explore that for a moment. Am I correct that as
13 science is viewed by, let's call them, purists--

14 A Okay.

15 Q --science insists on natural explanations for
16 phenomena in the natural world?

17 MR. GILLEN: Objection to the form.

18 A Yes.

19 Q And--

20 A All right, but--yeah. Purists, establishment
21 science, the--the dominant view of science is--is
22 natural--naturalistic, yes.

23 Q And by "naturalistic," do you mean that only
24 natural phenomena can be used as explanations?

25

1 A Yes, although there is a kind of philosophical
2 complexity that I question. But, yes, I mean, I
3 suppose I would say--

4 Q Okay.

5 A --that's right.

6 Q And to create a divide--

7 A Uh-huh (yes).

8 Q --supernatural explanations cannot be referred to--

9 MR. GILLEN: Object to the--

10 Q --in--in science--

11 MR. GILLEN: Object to the form.

12 Q --is that correct?

13 A Yes, although, again, I would want to say I think
14 it's helpful to draw a distinction between
15 supernaturalism "A" and supernaturalism "B."

16 Q What's "A" and what's "B"?

17 A "A" is traditional, orthodox religion, the idea of
18 a supernatural god as a being who creates nature
19 and who may intervene in nature from the outside by
20 way of miracles or by way of implanting souls in
21 people, as the Pope holds. That's one kind of
22 supernaturalism.

23 Supernaturalism "B" doesn't require any
24 kind of god like that, but rather is the idea that

25

1 you cannot understand nature apart from
2 teleological causation, apart from there being
3 purpose in nature or design in nature. So that--
4 because one of the things that I believe--and
5 there's a fairly rich philosophical and theological
6 literature to draw on here--is that one can believe
7 that there's design in nature or purpose in nature
8 without believing in a--a kind of supernatural god
9 that is the--the usual view in--in Judaism,
10 Christianity, and Islam, for example.

11 So I think it's important to distinguish
12 those two kinds of supernaturalism, but both are
13 excluded from naturalistic science.

14 Q And "teleology" means?

15 A Purpose, telos, the end, that there is a--that
16 nature works toward some kind of an end or goal, so
17 that there's a purp--a design to nature.

18 Q Okay. You referred earlier to proponents of
19 intelligent design, and you identified a Mr. Behe--

20 A Uh-huh (yes).

21 Q --Mr. Dembski, Phillip Johnson.

22 A Uh-huh (yes).

23 Q Have you made any effort to count noses--how many
24 IDT people there are and how many mainstream

25

1 biologists or--

2 A Yeah.

3 Q --evolutionary scientists there are?

4 A I--I haven't made any formal effort to count noses,
5 no. But invariably one forms impressions simply
6 from reading the literature and, you know, seeing
7 how many folks are--are writing about this. I
8 don't read the--as I said, I'm not a scientist. I
9 don't read the scientific journals. So it's kind
10 of the--the more popular literature about it that I
11 do read.

12 I do remember the--the big list of--of
13 critics of Darwinism and defenders of intelligent
14 design that appeared in The New Republic, and a
15 couple of other places, I think, where there were
16 three hundred, something like that, scientists who
17 identified themselves as sympathetic to the
18 movement or critical to--to neo-Darwinism.

19 So, you know, I--I have an impression
20 that it's undoubtedly a small but perhaps--but, I
21 think, significant minority of--of people in the
22 sciences who have some kind of--and the other
23 thing, you know, that--that's striking to me is
24 that--the usual view is that, of course, all--or

25

1 all--virtually all establishment, you know, people
2 who work within the naturalistic tradition of
3 science are supporters of--of neo-Darwinism. But--
4 but I'm--my impression, again, is that many of
5 those folks have never taken the trouble to try and
6 understand the issues--what is at issue with regard
7 to intelligent design and the criticisms of
8 neo-Darwinism.

9 So, to say that most all scientists are
10 supporters of neo-Darwinism is a--a misleading
11 statement, that the number of scientists who have
12 actually taken the--the trouble to understand
13 what's at issue and read the literature about the
14 controversy, I suspect, is very, very small.

15 One of the things that struck me in--in
16 listening to some people who defend intelligent
17 design is--is that because of their educations, the
18 narrowness of their scientific educations, they
19 were never exposed to any kind of philosophical
20 questions about methodological naturalism or the
21 nature of science that might cause them to think
22 more critically about neo-Darwinism. And only for
23 reasons that--that perhaps have nothing to do with
24 the science, or perhaps because they become
25

1 disenchanted with the--with the adequacy of
2 neo-Darwinian explanations and they start reading
3 more widely, do they recognize that they weren't
4 really in much of a position ever to judge the
5 adequacy of--of neo-Darwinism as--scientifically.

6 Thomas Kuhn says--in *The Structure of*
7 Scientific Revolutions, he says that scientists
8 receive the most-dogmatic training of--of anyone
9 except theologians. And, of course, he's wrong.
10 Theologians are much more liberally educated than
11 scientists are. No scientist has to take a
12 philosophy or a theology course in order to get a
13 Ph.D. in science, but anybody who studies
14 philosophy or theology has to study a good deal of
15 science.

16 So I think the narrowness of scientific
17 education in a way makes it much less likely that
18 they're going to question neo-Darwinism. So to say
19 that all scientists are--are supporters of
20 neo-Darwinism hides a crucial--crucial problem.

21 Q Excuse me. By "liberal education"--

22 A Yes.

23 Q --are you referring to what we would generally
24 refer to as the liberal arts?

25

1 A Yes, although part of what I've tried to do is
2 develop a theory of liberal education that is in
3 fact better than--than the prevailing views. And
4 it's not that I depart all that much from people
5 from whom I have in fact learned a lot. I have--
6 it's not that I--I have all that unique an
7 understanding.

8 But--but one of things that troubles me
9 is--does bear on the discussion here and on what
10 we've just been talking about. And that is, I
11 think the conventional understanding of liberal
12 education is that one should have a little science,
13 a little literature, a little history, a little
14 art, a little economics, and so that you study--you
15 take different subjects.

16 And my problem with that way of thinking
17 is that we don't teach students subjects; we teach
18 them disciplines. We teach them the establishment
19 way of thinking within economics--neoclassical
20 economic theory--the establishment way of thinking
21 in history, or in art, or in--or in science, and
22 that a part of what makes education liberal--and
23 then--and then what that ends up being is a kind of
24 separatist education, where you--it's--it's like

25

1 encountering different items on a cafeteria line.

2 I call it serial socialization. That is, you learn

3 what the establishment--

4 Q You don't mean C-E-R-E-A-L, right?

5 A Yeah, the cereal on the cafeteria line. Oh, that's

6 good. I like that. I'm going to use that, if I

7 may. Thank you.

8 And--and a part of--of the purpose of

9 liberal education is to draw connections between

10 the different disciplines, to point out the

11 conflicts, the tensions, the overlaps, the

12 compatibilities.

13 And that's what students don't learn to

14 do. They don't learn to understand what the

15 relationship of the disciplines is. And the very

16 intra--I mean, this is part of what philosophy

17 does, is it tries to get at the--the connections

18 and the relationships between disciplines so that

19 we can think outside of each box in turn and ask

20 larger questions about what is reasonable to

21 believe, all things considered.

22 And that's part of what science education

23 should do, it seems to me, that it doesn't do, is--

24 is not just train scientists, but to get--to--to

25

1 help students understand what--the role science has
2 in a liberal education requires establishing
3 connections with other disciplines and ways of
4 thinking.

5 So that science education should be more
6 liberal than it is. It should not just narrowly
7 focus students in on the establishment
8 understanding of science but should broaden them
9 philosophically--and, in fact, I would also add,
10 religiously--by locating science in various kinds
11 of cultural disputes.

12 Although here, with regard to this case,
13 I would be happy if they would simply give students
14 a broader understanding of the relationship of
15 establishment science to other--to dissenters on
16 the edges of--of science to get them to see that
17 there are various ways of being--being scientific,
18 that the idea of science itself is one that's--
19 that's controversial.

20 Q This may be touching on a new subject, but--

21 A Uh-huh (yes).

22 Q --I perceive of it as an extension of what--

23 A Okay.

24 Q --you were just saying. There are two terms that

25

1 I've encountered in this case that I think bear
2 differentiation and definition.

3 A Uh-huh (yes).

4 Q Methodological naturalism and philosophical
5 naturalism.

6 A Uh-huh (yes).

7 Q And am I correct that--if I can call it "mainstream
8 science" or "traditional science"--

9 A Uh-huh (yes).

10 Q --insists on methodological naturalism?

11 A Yes. That's--yes.

12 Q And am I correct that some scientists and other
13 thinkers have developed a philosophical naturalism,
14 which is a religious or a philosophic worldview
15 rather than a methodologically scientific
16 worldview?

17 MR. GILLEN: Object to the form.

18 A Certainly, that distinction is oftentimes drawn.
19 Whether it holds up in practice is another
20 question.

21 Q "Philosophical naturalism" means what?

22 A It's the idea that all of reality can be understood
23 within naturalistic categories, so that in
24 principle, unlike methodological naturalism, it

25

1 concludes that naturalism is--is adequate for
2 explaining everything. A methodological naturalist
3 would often--typically say that it--it may be
4 that--that science can't explain everything but
5 science should continue to be a method--to adhere
6 to a methodological naturalism: Let's see how much
7 we can explain that way, but maybe we can't explain
8 everything in the end.

9 That distinction certainly can be drawn.
10 My problem, again, is that in practice the
11 distinction collapsed, given the way we do
12 education nowadays.

13 Q Let me see if I can be more direct in trying--

14 A Okay.

15 Q --to go where I'm--

16 A All right.

17 Q --trying to go here. Methodological naturalists
18 would say, "We insist on using our methodology to
19 understand the natural world."

20 A Uh-huh (yes).

21 Q And philosophical naturalists would say, "The
22 natural world is all there is;"--

23 A Uh-huh (yes).

24 Q --"there is nothing beyond that."

25

1 A Okay.

2 Q So the philosophical naturalists would say, "There
3 is no divine purpose in life"--

4 A Uh-huh (yes).

5 Q --"and, indeed, there is no divinity."

6 A Uh-huh (yes).

7 Q The philosophical naturalist would say, "There are
8 no absolute moral values; there are socially
9 useful"--

10 A Okay.

11 Q --"values." So the philosophical naturalists would
12 take a religious approach--

13 MR. GILLEN: Objection. I'm sorry.

14 Q --in term--religion in the sense of providing
15 ultimate meaning--and say that there is no ultimate
16 meaning.

17 MR. GILLEN: Objection--

18 Q Fair enough?

19 MR. GILLEN: Objection to the form. Go
20 ahead. Answer.

21 Q And that was so clumsy, I'll come back and do it
22 again.

23 MR. GILLEN: No. You know what, Chub,
24 you and I both know it's a complicated subject

25

1 matter.

2 A Okay. If--given the religious answer, if--if
3 "religion" means answering a question that has
4 religious implications--like "Is there meaning?"--
5 and if you say no, because you've given an answer
6 to a religious kind of question, then philosophical
7 naturalism, I suppose, could be called a kind of
8 religion.

9 I myself don't like to use "religion"
10 in--in that way. For--for me, a religious view is
11 a view that holds that there is some kind of
12 purpose or meaning to existence beyond naturalism,
13 so that naturalism simply--it--it doesn't make much
14 sense to call that a religious view. But that--
15 that's a view about--that's my effort to try and
16 avoid using the word "religion" in an unduly
17 controversial or complicated way.

18 Q And forgive me, because my notes got in the way of
19 my understanding. You said a religious view as you
20 would view it requires that there is a meaning or
21 purpose to life, did you say?

22 A To reality.

23 Q To reality?

24 A To reality. That's right. There is a dimension to
25

1 reality or an aspect of reality that--that
2 transcends what we can know naturalistically. And
3 the different great world religions have defined
4 that in very different senses. And in some
5 religious traditions, you--you have God, and in
6 others, you have nirvana, or Brahman, or the Tao,
7 and something that doesn't look all that familiar
8 to our idea of God within the Western tradition,
9 but it's still an understanding of reality that
10 transcends in some--in important ways what--what a
11 naturalistic scientific worldview allows us to--to
12 say about reality.

13 And that's crucial to religion, to my way
14 of thinking, so that naturalism doesn't become
15 religious just because it gives negative answers to
16 religious questions.

17 Q Okay.

18 A I'm--I'm not sure that much hangs on that, in the--
19 in the end, even constitutionally, but--but I think
20 that's the clearest use of--of the term "religion."

21 Q And to wrap up this segment--

22 A Okay.

23 Q --is it your view that that religious--strike that.

24 Is it your view that that appreciation

25

1 for the reality of a transcendent purpose to
2 reality needs to be brought into both science and
3 science education in public schools?

4 MR. GILLEN: Object to the form.

5 A Let me give you a qualified yes, because a
6 straightforward yes would invariably be
7 misunderstood. So--and again, my understanding--
8 the--the conception of science education that I
9 argue for is locating science, in part,
10 historically and philosophically in relationship to
11 other subjects, other areas of our cultural life.
12 So that a good science education should help
13 students understand the relationship of science to
14 moral issues, political issues, religious concerns.

15 That doesn't mean that religious views
16 should be understood to be--should be understood to
17 provide some kind of legitimate alternatives to
18 science, that they can become--that--that they--for
19 example, that--that Genesis should be taught in a
20 science class--class as a contender with
21 establishment science, no.

22 Science classes should teach science. I
23 think they should include some discussion of IDT
24 because IDT should be considered science. At the--

25

1 at--at the least, students should be made aware of
2 the controversy over whether IDT is science. But
3 any science class should also locate students
4 within the larger cultural conversation we're
5 having about important things.

6 So, to that extent, religious, moral, and
7 political views that science impinges on, has
8 implications for, need to be part of the framework
9 for locating students.

10 MR. WILCOX: Okay. Why don't we take a
11 little break.

12 MR. GILLEN: Sure.

13 MR. WILCOX: We've been going for an
14 hour.

15 MR. GILLEN: Certainly.

16 -----

17 (ELEVEN-MINUTE RECESS)

18 -----

19 Q (By Mr. Wilcox) If you will turn to the second
20 page of your opinion--

21 A (Examines paperwritings.) Uh-huh (yes).

22 Q --there's a paragraph under the heading "Critical
23 Thinking."

24 A Yes.

25

1 Q And it's the next-to-the-last paragraph. And you
2 say, quote, "We disagree deeply in our culture
3 about how to make sense of nature," and then the
4 sentence continues.

5 A (Examines paperwritings.) Uh-huh (yes).

6 Q And I want to go into each of the parts of it.

7 A Okay.

8 Q In talking about this disagreement in our culture
9 about how to make sense of nature, are you talking
10 about this question whether there is or is not a
11 transcendent purpose in reality?

12 MR. GILLEN: Objection to the form.

13 A Yes. But again, the--the controversy occurs on, I
14 think, two different levels. One is the level of
15 our culture wars, where the--the issue is
16 oftentimes framed in terms of creationism versus
17 evolution. And--and as I said, I--I think we need
18 to recognize that there are alternative positions
19 there, that the usual culture-wars rhetoric doesn't
20 work very well.

21 And then there's also disagreement
22 among--more narrowly among scholars--and, in fact,
23 I think, among scientists--about how to make sense
24 of nature, so--where IDT is--is one of the major
25

1 issues.

2 But that--it's not--that's not the only
3 source of that kind of conflict. It comes up with
4 regard to fine-tuning in cosmological evolution.
5 It comes up with regard to the origins of life. It
6 comes up with the nature of mind and morality.
7 There are--there are conflicts there among
8 scholars, among philosophers and scientists and
9 sometimes theologians, that the public is simply
10 unaware of. So--so, you know, we've got to do a
11 kind of two-layer analysis, I think.

12 Q Okay. You continue in the sentence, "we disagree
13 about evolution."

14 A Uh-huh (yes).

15 Q Is this the disagreement as to whether evolution
16 has purpose or not, or is this the disagreement as
17 to whether evolution explains the origin of species
18 or not?

19 MR. GILLEN: Object to the form.

20 A Well, again, there are several different
21 disagreements. As I said, there's--there's the
22 culture-wars disagreement, where it's evolution
23 versus creationism oftentimes. There's a more
24 sophisticated analysis which--which says it's not

25

1 evolution versus creationism, but it's different
2 understandings of evolution: Is there a design, is
3 there a purpose to evolution? And then there's--
4 there's the--the conflict within and on the borders
5 of science about whether or not there should be
6 design explanations allowed into science. So--so
7 it's a multilayered disagreement, I think.

8 Q And--and the third sentence--the third statement in
9 this sentence is, quote, "we disagree about the
10 relationship of science and religion."

11 A (Examines paperwritings.) Yeah.

12 Q And this is something that I don't think we've
13 talked about yet this morning. What is the
14 disagreement about the relationship of science and
15 religion that you refer to?

16 A Well, one of the questions is, of course, whether
17 design explanations should be allowed into science
18 or whether they're inherently religious. And my
19 view, as I say later in the paper, is that they
20 should be allowed into science, that they aren't,
21 by their nature, religious.

22 But there's--you know, there's a huge
23 literature now on the relationship of religion and
24 science. Ian Barbour, in the kind of work that's

25

1 done so much to define this whole area of science-
2 and-religion studies, suggests there are various
3 kinds of models: There's models of conflict;
4 there's models of independence; there's models of
5 integration. I forget--he's got four different
6 models. Some other scholars, you know, come up
7 with a different--different names and organize the
8 relationships in different ways.

9 So this is an area of lively discussion
10 over the last twenty, thirty, forty years as--as
11 scholars have not assumed, as, I think, was much
12 the case, that science and religion were two
13 entirely separate phenomena for so long, and--but
14 have--have talked about the complexity of the
15 relationships and offered various kinds of models
16 for understanding it. So it's to acknowledge
17 that--that very lively debate among scholars.

18 Q You say, in the next paragraph, quote, "public
19 education actively discourages critical thinking by
20 failing to provide students any critical distance
21 on the secular ways of thinking and living that
22 they are taught to accept uncritically"--

23 A Uh-huh (yes).

24 Q --"in their various courses." I think I know what
25

1 you're saying, but I'm not sure. Does this get
2 back to the notion of the cafeteria--

3 A Uh-huh (yes).

4 Q --and students are given courses--you know, here's
5 a vegetable, here's a meat, here's a potato, here's
6 a piece of pie--without being given an
7 organizational framework as to how you make a meal?

8 A Yeah. They're only given food--they're only given
9 choices from one food group, and--and so that--you
10 know, a liberal education is--is the opposite of a
11 narrow or a parochial education. And so by not
12 including--most of my work has been concerned
13 with--with including religious voices in that
14 discussion. That's what make--religious voices are
15 central in the--in the curricular conversation, if
16 it's to be truly a liberal conversation and--and
17 part of a liberal education. Contemporary
18 education is illiberal by excluding religious
19 voices.

20 Education, only a decade or two or three
21 ago, used to be illiberal by excluding women's
22 voices or the voices of members of minority
23 traditions or ethnic groups. Their voices were
24 left out. Is that just benign neglect? No. We

25

1 now all agree that--that there's something
2 fundamentally illiberal about an education that
3 doesn't include women's history, women's
4 literature, women's points of view, or black
5 history, and so on, or non-Western cultures.

6 So, you know, my argument is--is much
7 like that, that--that a liberal education should
8 include all of the major voices in--in the larger
9 cultural conversation. Otherwise, education is--is
10 screening out particular points of view. It's
11 content discrimination or viewpoint discrimination.

12 Q When you use the term "religious voices"--

13 A Yes.

14 Q --do you mean anything different from persons
15 having a religious viewpoint or thought
16 reflecting--

17 A No.

18 Q --that religious--

19 A Voices coming out of religious traditions or who
20 make religious kinds of arguments.

21 Q "Voices" is a metaphor for something.

22 A It's a metaphor.

23 Q And what's the something that it's a metaphor for?

24 A Well, for--for tradition. But the--a part of my

25

1 larger concern is that, too often, what limited
2 study of religion there is in schools and
3 universities focuses on traditions in their
4 historical guise. So that in history classes,
5 there will be something about Judaism or
6 Christianity and--and Islam in the ancient world or
7 medieval world. Maybe we'll even get a little bit
8 of religion in the Reformation. Then, after that,
9 religion drops out of--out of the textbooks and out
10 of--out of education.

11 And so one of the points I want to make
12 is that you need to include contemporary religious
13 voices, not just religious traditions which we then
14 locate in the distant past. It's a way of--of
15 saying the contemporary conversation is what's
16 really crucial.

17 Q And I'm trying to get at what you mean by "voices"
18 or "conversation," because--

19 A Uh-huh (yes).

20 Q Are you--I would understand "religious voices" to
21 mean including in the curriculum content that has a
22 religious basis.

23 A Yes.

24 Q Is that what you mean by--

25

1 A Yes.

2 Q --"religious voices"?

3 A Yeah. Including texts. One of the important
4 points that I want to make is that educators much--
5 that--that public-school education, at least in
6 secondary schools, should be more like, ideally--
7 there are various kinds of practical problems, but,
8 ideally, should be more like undergraduate
9 education in using primary sources instead of
10 relying so heavily on textbooks.

11 Primary sources are written from within
12 various traditions, so that everything isn't
13 screened through the--the filter of a textbook
14 writer, who puts his or her own spin or--or
15 understands everything in--in terms of some
16 prevailing paradigm within that--that discipline.
17 That students need to be exposed to the primary
18 sources, to the voices of people within the
19 differing traditions.

20 Q And "voices"--you mean the writings?

21 A The writings.

22 Q Okay.

23 A That's right. It's--"voices"--clearly, it's a
24 metaphor, yes.

25

1 Q Okay. You say that public education actively
2 discourages critical thinking. Are you making that
3 as a purposeful statement or as an observational
4 statement?

5 A Is it intended or not?

6 Q Yes.

7 A Some is; some isn't. I think a lot of it is naive,
8 philosophically naive, that because most teachers
9 are educated in the prevailing paradigms of their
10 disciplines, they are not themselves educated to
11 understand dissenting voices and alternative ways
12 of--of addressing the subject at hand or of
13 relating the subject at hand to other disciplinary
14 approaches. They're--they're narrowly trained.
15 It's not that they intend to provide students with
16 an illiberal education or socialize or indoctrinate
17 students into a particular--particular discipline.
18 It's that--it's just that their--their education
19 puts blinders on them, so that they have an unduly
20 narrow view of what it is that they're supposed to
21 do.

22 And religious alternatives are simply one
23 of any number of ways in which this falls out. As
24 I said, we had blinders with regard to gender and
25

1 race and ethnicity up until just a few decades ago.
2 We didn't see that that was--produced an illiberal
3 education.

4 I make that argument with regard to
5 religion in particular, but also oftentimes with
6 regard to secular moral views, for example, in--in
7 some disciplines, that there's--that there's
8 moral--that there are moral perspectives on the--
9 the issue at hand, like in economics, that get
10 filtered out by our effort--by the effort of--of
11 the economic establishment to insist that--as the
12 national economic standards do--that only
13 neoclassical economic theory be taught. And
14 that's--that's just a travesty of liberal
15 education, that economics can't consider moral
16 frameworks for--for understanding justice in the
17 economic domain because we've got to teach students
18 that--that everybody is a self-interested utility
19 maximizer.

20 So the point always is to--to get the
21 disciplines to broaden themselves in a way that
22 acknowledges dissenting voices on the borders of
23 those traditions and opens students to
24 relationships between the establishment views in
25

1 the--in the discipline to other ways of making
2 sense of the world and of the--the particular
3 subject at hand.

4 Neoclassical theory is sort of like the
5 methodological naturalism of--of the sciences.
6 There's a--there's a real comparison there. I
7 think most people would find--and certainly when
8 I've talked with groups of people and we talk
9 through this--that the kind of commitment to
10 neoclassical economic theory in economics is--most
11 people find appalling, other than professional
12 economists. And of course, people are something
13 more than that. Of course, justice questions
14 should be involved in--in economics.

15 So, that kind of--that's part of my work,
16 too, that the kind of battles that we're looking
17 at--the kind of questions we're looking at in
18 science also occur in other disciplines.

19 (DISCUSSION OFF RECORD)

20 Q On Page 4, you have a paragraph that begins, "It is
21 true that we can distinguish, in principle, between
22 a methodological naturalism"--

23 A (Examines paperwritings.) Uh-huh (yes).

24 Q --"and a philosophical naturalism." Would you
25

1 agree that the methodological naturalism that you
2 refer to there is what we have been referring to as
3 classical science or traditional science?

4 MR. GILLEN: Object to the form.

5 A The "traditional" and the "classical" seem to me to
6 be not the right words to use, because classical
7 and traditional science did involve design--have
8 design explanations.

9 Q My--

10 A It's peculiarly modern science--

11 Q Modern science.

12 A --that wants to dispense with--

13 Q Okay.

14 A --naturalistic--or design explanations.

15 Q So "methodological naturalism" would be another way
16 of referring to modern science?

17 A Yeah.

18 Q And--

19 A The dominant view, yes.

20 Q And the philosophical naturalism, you say, denies
21 that there is any design or supernatural causes in
22 the world.

23 A In reality.

24 Q But I would take it further--

25

1 A Uh-huh (yes).

2 Q --and imply, from philosophical naturalism, a
3 negation of any reality beyond the natural world.

4 A Uh-huh (yes).

5 Q Do you agree with that?

6 A Yes, I think so.

7 Q Okay. Then you go on and say, "The educational
8 problem is that unless students are made clear
9 about this distinction, they will inevitably
10 conclude that science does tell us everything that
11 there is to be said about nature, and God plays no
12 role in nature." What is your basis for that
13 statement?

14 A (Examines paperwritings.) I wouldn't write that,
15 first of all, the same way, if I were going to do
16 that again, because that simplifies what--what
17 my--my argument is. And the problem is this: We
18 can draw that distinction, methodological and
19 philosophical naturalism, in principle, easily
20 enough. And that's fairly straightforward. I
21 don't think--

22 Q And we can explain it to students, too.

23 A We can--we can explain it to students. The problem
24 is that it's a--we don't explain--we don't explain

25

1 it to students in a--in a compelling--in a
2 compelling way. And to do it in a compelling way
3 to get them to see the point of it is, I think,
4 difficult to do.

5 And granted, you--you can--you can make
6 the distinction in--in two sentences. Okay. But
7 then we go and teach them for a semester or an
8 academic year, using science understood in terms of
9 methodological naturalism, and that two-sentence
10 explanation of the distinction gets lost because--
11 because of the over--overriding power of--of what
12 they learn afterwards through their whole study of
13 science.

14 Now, that's not to say that it isn't
15 important to draw that distinction. It is
16 important to draw that distinction. It's just that
17 that doesn't really go very far. It doesn't go
18 nearly far enough to really get students to grapple
19 with the--with the kind of philosophical issues
20 that--that underlie the distinction, which is--is
21 part of what a liberal education should do, and--
22 and to show how drawing that distinction relates to
23 these larger questions about our cultural
24 disagreements over the extent to which science can

25

1 explain reality.

2 Q You say unless students are made clear, quote,
3 "they will inevitably conclude that science does
4 tell us everything that there is to be said about
5 nature, and God plays no role in nature."

6 A Yeah. Well--

7 Q Why do you say they will inevitably conclude that?
8 What is your basis?

9 A I--I should have said they will naturally conclude
10 that, because I--I suppose it isn't inevitable that
11 they will conclude it. But that will be the--the
12 natural conclusion: Well, science doesn't tell us
13 anything about--and--and when I said that I
14 wouldn't have written it the second way, I--I
15 wouldn't have--I wouldn't have written it the same
16 way if I were doing it now, because I--I see a
17 complication that obviously didn't occur to me when
18 I wrote it. And that is, it's not just that God
19 plays no role in nature, but the design plays no
20 role in nature. And I--and I want to be very
21 careful to distinguish those two questions.

22 And students learn--we require them to
23 take, if they're going to university, four years of
24 science in high school--

25

1 Q Can--I want to focus on high school here.

2 A Yeah. Four years of--of high--

3 Q Okay.

4 A --high-school science, and four years of science
5 shaped by methodological naturalism. And it--it
6 conveys to them, unless a good deal of time and
7 effort is spent, the idea that science can actually
8 tell us everything that's to be said about nature.

9 And--and that's controversial. And that
10 inevitably--naturally, at least--slides over into a
11 kind of philosophical naturalism. The only way to
12 avoid that is to give them some kind of substantive
13 examples of--and which a liberal education
14 requires--of how science might have limitations
15 and--and how design might figure into our
16 understanding of nature, or even how nature, as
17 understood by modern science, might relate to God.

18 MR. WILCOX: May I have that repeated,
19 just the last twenty words?

20 (Whereupon, the sentence at Lines 11 through 17

21 on this page was read back.)

22 Q (By Mr. Wilcox) I did not understand your
23 reference to design--

24 A Uh-huh (yes).

25

1 Q --in that last answer to necessarily be a reference
2 to what we've been talking about as intelligent-
3 design theory.

4 A Uh-huh (yes).

5 Q Did you understand it to refer to intelligent-
6 design theory, or, more broadly, to the question of
7 a transcendent god providing a purpose in life--

8 MR. GILLEN: Objection to form.

9 Q --or--or in reality?

10 A I'm not sure that I understand the question.

11 Q Okay. We've been talking design, I think, in two
12 different senses.

13 A Uh-huh (yes).

14 Q One is the narrow, inferential, explanatory--

15 A Uh-huh (yes).

16 Q --sense of intelligent-design theory--

17 A Right.

18 Q --and the other is--and perhaps we haven't been
19 talking about it; it's only me thinking fuzzily
20 about it--design in the sense of a purpose--

21 A Uh-huh (yes).

22 Q --of reality--

23 A Uh-huh (yes).

24 Q --that purpose being informed by a transcendent

25

1 god.

2 MR. GILLEN: Object to form.

3 Q Is that consistent with your understanding?

4 A So, there are three possibilities here. One is the
5 narrowest sense that--where a scientist might
6 suggest a design explanation with regard to some
7 fairly discrete phenomenon--how cells work, for
8 example.

9 And then secondly, there's a larger
10 question about whether that provides some kind of
11 evidence for claims that there is a purpose in
12 nature that--that--or a design in nature.

13 And then there's a third level, which is,
14 how do we explain that design in nature? Do we
15 appeal to a supernatural god--to a god or a
16 supernatural being who causes it?

17 My argu--my position is that--of course,
18 that you can make design explanations, and you can
19 hold the position that there's design in nature
20 apart from any commitment, theological commitment,
21 to a god or to a supernatural being, that those are
22 distinguishable--conceptually distinguishable kinds
23 of--of questions. All the time, in--in our
24 ordinary everyday relationships, and indeed in the

25

1 practice of science, we talk about things being
2 designed with--without presupposing that--that we
3 have to use religious language or theological
4 language in doing that.

5 So, certainly, we can talk of the idea of
6 design as conceptually independent of the--of the
7 idea of God. But, of course, when we talk about
8 the design inherent in cells or in fine-tuning
9 after the Big Bang, of course, the big question is,
10 how does that design get to be there? But it's
11 still a conceptually discrete question. You don't
12 have to have a religious--you--you can--you can
13 still have evidence for and a make a good argument
14 for design without having any kind of theological
15 or religious commitments, it seems to me.

16 So I--I want to be careful to distinguish
17 design questions from religious questions. And--
18 and that's what allows me to say that design
19 questions should be allowed in a somewhat enlarged
20 science. That doesn't run us the risk of making
21 science into a quasi-religious endeavor or a
22 theological endeavor.

23 Q Can you identify for us one intelligent-design
24 theorist who claims that the source of the design

25

1 was some extraterrestrial alien?

2 A Now, I know that Francis Crick argued that maybe
3 life arose here as a result of intelligent beings
4 elsewhere in the universe sort of implanting it.
5 But he, of course, wasn't an intelligent-design
6 theorist.

7 I guess I just don't--I don't see the
8 point. No, I mean, intelli--but intelligent-design
9 theorists claim that in the--claim that they can
10 do--that they can make design arguments apart from
11 theological convictions or--or commitments. And
12 that makes perfectly good sense to me.

13 Undoubtedly, some, maybe many, maybe most
14 of all them, do have religious convictions. But
15 still, you can distinguish the--the design
16 argument, the evidence for the design argument,
17 from the theological position which they may or
18 they may not hold. So that intelligent design as
19 science doesn't imply or require any kind of
20 religious worldview or conviction. It--it may well
21 be that the only way--or that the best way--maybe I
22 should say "the best way." It may well be that the
23 best way of explaining the design is in terms of a
24 supernatural god.

25

1 But there certainly are a variety of
2 philosophical positions and very liberal religious
3 positions which hold that there's design in the
4 world but that it's not there because of a
5 supernatural god, the kind of god that's part of
6 orthodox religious traditions: Aristotelian views;
7 process-theology, process-philosophy views; some
8 feminist views of nature.

9 So--so--and again, I want to draw that
10 sharp distinction between design on the one hand
11 and supernaturalistic religion on the other.
12 Design is supernaturalistic in sense "B." Design
13 isn't allowed, given the constraints of
14 methodological or philosophical naturalism, but you
15 can still have design without committing yourself
16 to supernaturalism "A," which is a designer--an
17 independent supernatural god. Next question.

18 Q Do you know of any intelligent-design theorists who
19 are not also practicing Christians?

20 A I don't know the religious backgrounds of many of
21 them. I know Behe's a Catholic. I don't know if
22 he's a good Catholic or a bad Catholic. That's his
23 tradition. And I know that Phillip Johnson has
24 made various kinds of remarks that suggest he's

25

1 religious in some deep sense. But, I mean, that's
2 all--about all I know about their private religious
3 views.

4 Q You pose the question, in your report, at the top
5 of Page 5, "Is IDT science?"

6 A Uh-huh (yes).

7 Q And you suggest, quote, "Arguably, what should be
8 taken seriously as science is in part, at least, a
9 matter of what good scientists take seriously."
10 That strikes me as fairly circular. How do you
11 identify what is a good scientist if you don't have
12 a notion of what science is?

13 A Well, it--it moves the focus from science in the
14 abstract to what particular individuals do. So,
15 first of all, it's important to point out the "is
16 in part," because it's in part a matter of
17 something else, which is philosophical
18 considerations.

19 But one way of--of deciding what good
20 science is is to look at what scientists do, and
21 that shifts the focus: Okay, then, what makes for
22 a good scientist? And--and the answer there is,
23 given our ordinary understanding of science, it's
24 somebody who's gotten a Ph.D. from a research

25

1 university, who perhaps teaches in research
2 universities, who publishes in journals, and who
3 has certain kind of credentials. And then what
4 those folks do is--is define good science for us.

5 Some of the folks with those kinds of
6 credentials--not many, but a significant number--
7 the leading intelligent-design theorists have
8 Ph.D.s from good, reputable research universities
9 and teach in research universities, have published
10 some in--in the peer-reviewed journals, and--and
11 yet, they--and they--they know establishment
12 science inside and out, and yet they have come to
13 believe that methodological naturalism is too
14 restrictive, that it's a--a kind of--well, it's in
15 effect a kind of scientific fundamentalism that
16 doesn't allow design explanations to be taken
17 seriously.

18 And--and so one of the ways of defining
19 what good science is is to see what scientists with
20 the appropriate kind of credentials end up doing.
21 And so it's important, I think, that these aren't
22 people who went to Bible colleges or that rely for
23 their understanding of nature on--on Genesis, but
24 that they are thoroughly and totally at home in
25

1 establishment science, and yet feel the need to--to
2 reject it--in part.

3 And this is--this goes to two of the--to
4 part of the--the--one of the criteria I--I say: To
5 what extent to the--does the theory draw on
6 accepted science? And it's important for me that
7 intelligent-design theory doesn't require us to
8 give up carbon-14 dating, and belief in dinosaurs,
9 and--and a thirteen-billion-year-old universe, or a
10 four-and-a-half-billion-year-old earth, the way
11 old-fashioned creationism does; that--that
12 intelligent-design theorists can accept most of
13 what science tells us about the world. They're
14 rejecting something key in biology: natural
15 selection.

16 Ernst Mayr said that there's a--there are
17 five components to Darwinian evolution. And I
18 can't remember them all, but it's the idea of
19 evolution itself, and it's gradualism, and it's
20 budding, and--and it's natural selection.

21 And--and a point that I think Behe makes
22 is that intelligent-design theory requires us to
23 say that natural selection is inadequate for
24 explaining everything that happens. But you can

25

1 still accept an awful lot even of evolutionary
2 science, even if you reject natural selection as an
3 adequate mechanism for explaining evolution.

4 So--so, I mean, that's another
5 consideration. You don't have to give up all kinds
6 of things, all kinds of aspects of science, to be a
7 good intelligent-design theorist. You can still
8 hang onto ninety-five percent of science or ninety
9 percent of biology, even if you--if you say natural
10 selection is a--is a mechanism that doesn't allow
11 us to explain everything that needs to be
12 explained. That's important, I think.

13 Q In answering the question "Is IDT science?"--

14 A Uh-huh (yes).

15 Q --you suggest several tests or aids.

16 A Yeah.

17 Q The first is: "How many scientists take IDT
18 seriously?" Here, do you have in mind absolute
19 numbers, or a percentage, or whether any--

20 A No.

21 Q --scientists--

22 A I--I--there's--you know, it's sort of like "What
23 age do people become responsible human beings?"
24 You know, I mean, there's no magic number. The--

25

1 the question is--for me, is: "Is there a
2 significant debate?"--

3 Q If there's one and you believe it--

4 A --"Is there a significant"--

5 Q --is that significant?

6 A Well, you know, if the one turns out to have been
7 Copernicus, you know, that's significant--or
8 Galileo, or somebody who goes against the--or--

9 Q So by "significant," you don't mean some number;
10 you mean--

11 A There's no magic number, no. But on the other
12 hand, you know, if it were just the point of view
13 of one person, I don't see that textbooks and the
14 curriculum would need to take it seriously. It's
15 got--there has to be some significant number, and
16 the idea has got to be of significant importance.

17 You know, in any place in the curriculum,
18 you can't include all the ideas and all the points
19 of view, so which ones do you include? By and
20 large, you include the most-important ones. I
21 would say you should also include the most-
22 controversial ones, the ones that--that have the
23 greatest significance in the larger culture.

24 And so the--this debate certainly ties

25

1 into culture-wars debates. It does that in part.
2 But it also--and more importantly, more
3 relevantly--ties into, I think, important
4 discussions on the edges of science about how to
5 define science, and to a tremendously important
6 question of whether there's design in nature and in
7 the world.

8 Now, that's a perennial philosophical
9 question. It's not just a religious question.
10 Philosophers have debated that quite apart from
11 anything that looks like traditional organized
12 religion. And--and so it's--I mean, certainly, the
13 design question can be understood as a secular
14 philosophical question, but insofar as it's a
15 question to which collecting evidence and
16 performing experiments is--is relevant, it can also
17 be a scientific question, I think.

18 Q Okay. Let me continue, because we get to some of
19 this.

20 A Okay.

21 Q You ask--with reference to how many scientists take
22 IDT seriously--

23 A Uh-huh (yes).

24 Q --"What is (or has been) their standing within
25

1 establishment science?"

2 A Yeah.

3 Q Other than Michael Behe, can you identify for us
4 one intelligent-design theorist who has a standing
5 within establishment science? I'm not talking
6 about mathematics; I'm talking science.

7 A I--I guess, if the question is "Are there people
8 who established a relationship and published in
9 science before they became intelligent-design
10 theorists?" I--I don't know. You know, about the
11 best that I can do in response to that question is
12 to say I'm not a scientist, and I do observe this
13 debate more through the kind of general literature
14 than through my reading of scientific journals or
15 the science--the science itself.

16 Q You continue: "What kinds of research have they
17 done?" I--I assume here you're talking about IDT
18 scientists and what kinds of IDT research have they
19 done?

20 A No, not necessarily. Have they done--but here,
21 it's important--again, I mean, anybody who gets a
22 Ph.D. from a research university is going to
23 have--have done research in establishment science,
24 and so that's crucial.

25

1 How familiar are they with establishment
2 science? What kinds of credentials do they have
3 because of their--their educations and things that
4 they might have published apart from--from IDT?
5 And it's a more-or-less kind of question. That's
6 relevant to--to judging--and--and again, how much
7 of establishment science do they have to reject?

8 If you're a creation--an old-fashioned
9 creation scientist and have to give up carbon-14
10 dating, and the age of the earth, and dinosaurs,
11 and all kinds of other things like that, you know,
12 that's an argument for saying that just can't be
13 considered science. But I take it that most of the
14 IDT people don't do that, that they accept an awful
15 lot of science.

16 Q Do they accept that man evolved from lower life
17 forms?

18 MR. GILLEN: Object to the form.

19 A I don't know. I suppose I have to say I don't know
20 the answer to that. I know in--in at least a few
21 cases--I mean, Behe, I know, accepts evolution;
22 he's an evolutionist. And as a matter of fact, he
23 said--in a New York Times piece this spring, he
24 says most IDT theorists are evolutionists; it's

25

1 just that they think the design has to enter into
2 the question of evolution. So, in some sense, yes,
3 we descend from other life forms. It's just that
4 you can't explain that evolutionary process in
5 neo-Darwinian terms--or you can't explain it fully
6 in neo-Darwinian terms.

7 Q Do IDT theorists tend to believe that the great
8 majority of species were--suddenly appeared--

9 MR. GILLEN: Objection to form. Spec--
10 sorry.

11 Q --with no record in the fossil record?

12 A I--

13 MR. GILLEN: Objection to form.
14 Speculation.

15 A I--I don't know.

16 Q Do you remember reading that in Pandalas and People?

17 A No.

18 Q You pose the question "To what extent does the
19 theory draw on accepted science?" "Draw on" is a
20 little vague. Is it your view that intelligent
21 design draws on methodological naturalism?

22 A It certainly draws on--I mean, it certainly draws
23 on--on other aspects of science. And insofar as--
24 as pretty much all science is defined by
25

1 methodological naturalism, it certainly draws on
2 the conclusions of that science to--as--as part of
3 its case.

4 I mean, again, to think of Behe, he
5 doesn't--you know, this doesn't come all out of the
6 blue, his theory. He's--he locates his design
7 arguments in the context of very deeply textured
8 understandings of the cell, which is drawn from--
9 from establishment science. So it's--it's not,
10 again, like the old-fashioned creation scientists,
11 who dismiss so much of establishment science and--
12 and make arguments that are unrelated to
13 traditional or--or modern establishment science.
14 It--again, it just seems to me to be quite a
15 different kind of--of thing.

16 Q Let's try to get at this another way, perhaps. Do
17 you understand intelligent-design theory to be a
18 testable and tested hypothesis?

19 A Yes, although the tests certainly would be somewhat
20 different from those employed in methodolo--within
21 a methodological naturalism. They may be
22 statistical tests, like Dembski--Dembski offers,
23 or, you know, the notion of irreducible complexity
24 that Behe uses. I mean, that's certainly--that's--

25

1 it's a way of testing an idea, but it's not the--
2 the standard way of--of methodological naturalism.

3 The--the arguments for fine-tuning in--in
4 cosmology, again, rely on very sophisticated kinds
5 of mathematical and statistical analyses to suggest
6 that the nature of our universe--the idea that it
7 is by accident the kind of universe that produces
8 life is--are extremely improbable. Well, I mean,
9 that's a way of testing, I think, a design claim,
10 but it's not the way of testing that's found, I
11 think, in much science. Although here I'm really
12 going beyond what I can talk about, because I know
13 various kinds of scientists use various kinds of
14 statistical analyses to--to support causal claims,
15 for example. So I--you know, I probably should
16 acknowledge my limitations, though I--

17 Q Okay. You referred earlier to seeing a list of two
18 or three hundred names--

19 A Yes.

20 Q --in, did you say, The New Republic?

21 A I know The New Republic, and--and I--my impression
22 is that that list appeared in a couple of other
23 places, maybe The New York Times. I--I saw it in
24 The New Republic.

25

1 Q Do you know the context in which it appeared? Was
2 it a paid ad, or an Op-Ed submission--

3 A Oh, I--

4 Q --or a--

5 A No, it was--it was a paid ad. Sure.

6 Q Okay. And do you know who paid for the ad?

7 A No. I could guess, but, no, I don't know. I
8 don't--I don't remember.

9 Q The Discovery Institute?

10 A I--that would be my guess, but I--

11 Q Okay.

12 A --don't know.

13 MR. WILCOX: Off the record.

14 (DISCUSSION OFF RECORD)

15 MR. WILCOX: Okay. Back on.

16 Q (By Mr. Wilcox) You continue in your list of aids
17 or tests: "To what extent is it an ad hoc theory?"

18 A Uh-huh (yes).

19 Q You'd better explain what you mean by that for me.

20 A (Examines paperwritings.) Well, the next sentence
21 explains it. That is, "Does it grow honestly out
22 of the evidence rather than out of prior
23 ideological or religious commitments?" An
24 explanation that--that really doesn't grow out of
25

1 evidence but grows out of convictions that someone
2 already has would be an ad hoc theory.

3 Q Okay. So those are two connected--

4 A Yes, that's right.

5 Q --questions?

6 A I should have said, "That is, does it grow out,"
7 but--and--and let me--I--is your question does
8 design--is design theory ad hoc? No.

9 Q I'm going to go to the next--

10 A All right. I'll wait for your question.

11 Q --question. To answer whether it grows honestly
12 out of evidence imports a notion of
13 trustworthiness--

14 A Yeah.

15 Q --that I'm not sure I can address. Do you feel
16 that you have insights as to the honesty vel non of
17 the IDT theorists?

18 A I don't have any deep insight into--

19 Q Okay.

20 A --into their honesty, or into the honesty, I should
21 say, of--of--

22 Q Neo-Darwinists?

23 A --some neo-Darwinists. That's right.

24 Q Okay.

25

1 A 'Cause you can make the same kinds of arguments
2 in--in either case. I mean, people say that--
3 that--a lot of people say that design theorists--
4 theory really grows out of religious convictions,
5 and some people say that neo-Darwinism really grows
6 out of atheistic convictions.

7 Darwin--Darwin himself couldn't believe
8 in a personal god after the death of his ten-year-
9 old daughter. You know, does that have something
10 to do with the fact that he now can ex--that--that
11 he wants to come up with an explanation of the
12 world independent of a--of a theistic god? I don't
13 know. My suspicion is that probably Darwin's
14 theory did grow out of a--not out of his re--his
15 personal rejection of a religious god. But
16 certainly there are some neo-Darwinians who
17 probably hold their views at least in part because
18 they can't tolerate the idea of a god.

19 So how do you assess the honesty? I
20 don't know. Certainly, many neo-Darwinians, I
21 think, come to their views because that's their
22 best reading of the evidence, rather than out of
23 any kind of prior religious convictions. And I--
24 and I suspect that at least some IDT theorists,
25

1 maybe most of them, also come to their convictions
2 out of an independent assessment of the evidence.
3 Maybe they're open to design explanations because
4 of religious convictions that they have, but--but
5 that's a different question from whether those
6 religious convictions actually drive or shape their
7 conclusions as scientists.

8 Q Okay. You continue that "whether or not IDT is
9 good science is in part, at least, a philosophical
10 question."

11 A Yeah.

12 Q And you then state, "Modern science has prided
13 itself on its openness to new evidence and to the
14 potential falsification of its theories." Would
15 you agree that modern science, however, is not open
16 to different methodologies; it insists on--

17 A Yes.

18 Q --methodological naturalism?

19 A Yes. And that then becomes the kind of
20 philosophical question that it's important for
21 science--scientists themselves and students who
22 study science to be educated about: Is
23 methodological naturalism--should methodological
24 naturalism define modern science? Because if--if

25

1 that question isn't opened up for discussion,
2 then--then you get what I call scientific
3 fundamentalism, whereby students are expected to
4 accept methodological naturalism more or less as a
5 matter of faith, or, that is to say, of trust in
6 the scientific establishment, rather than any kind
7 of reasoned conviction about it.

8 The only way to--to have a re--a reasoned
9 position on methodological naturalism is if you
10 understand something of the alternatives or the--
11 the debate about the adequacy of methodological
12 natural--methodological naturalism going on in our
13 larger intellectual life.

14 Q To some extent, intelligent-design theorists
15 reference things like Mount Rushmore.

16 A Yeah.

17 Q You're familiar with that--

18 A Yeah.

19 Q --sort of "I know it when I see it"?

20 A Uh-huh (yes).

21 Q That, of course, presupposes that the intelligence
22 underlying the design is an intelligence much like
23 human intelligence, doesn't it?

24 A Yeah. Well, I mean, that analogy does, yes. Or by

25

1 analogy, yes.

2 Q Which connotes that man is created in the image of
3 God, does it not?

4 A Well--

5 MR. GILLEN: Object to form.

6 A --no, because, again, I want to distinguish between
7 supernaturalism "A" and supernaturalism "B" simply
8 because there are some folks in the history of
9 thought who are supernaturalists "A," and there are
10 some folks who are supernaturalists "B," and--and
11 intelligent design is compatible with either.

12 It doesn't require God understood in
13 traditional terms of Judaism, Christianity, and
14 Islam. It could be simply the presence of design
15 in the universe in ways in which other philosophers
16 have understood as--as a possibility but that
17 doesn't rely on--on the idea of God. So--and
18 that's a crucial distinction. I--I don't want to
19 lang--we don't--we don't necessarily have to have
20 God just because we have design.

21 Q I'd like to switch gears and talk about the
22 educational value--

23 A I'm happy to switch gears.

24 Q --of the Dover Area School District--

25

1 A Okay.

2 Q --update of the biology curriculum. The biology
3 curriculum was updated to include a preliminary
4 statement as follows, quote: "Students will be
5 made aware of gaps, slash, problems in Darwin's
6 Theory and of other theories of evolution,
7 including, but not limited to, Intelligent Design."

8 What are the--do you have any understanding as to
9 what is meant by the "gaps, slash, problems in
10 Darwin's Theory"?

11 A (Examines paperwritings.) I don't know what--since
12 I haven't read any literature or talked with any of
13 the people--what the authors of that statement
14 mean. I--I can speculate as to what it might be or
15 what I would take them to be, the--the
16 gaps/problems.

17 Q Would it, in your mind, be a reference to gaps in
18 the fossil record, for example?

19 A It could be. That's certainly one of the--the
20 kinds of gaps that oftentimes are mentioned,
21 particularly in--in intelligent-design literature.

22 Q And could it be also the difficulty that evolution
23 has in explaining the crossover from chemistry to
24 life?

25

1 A That would certainly be one of the possibilities,
2 yes.

3 Q Can you think of any other gaps, slash, problems in
4 Darwin's theory?

5 A Well, I think another big one would be the
6 development of--of sexual reproduction. My
7 understanding is that--this is nothing I'm an
8 expert on, but my understanding is that that does
9 create a large problem, how you get sexual
10 reproduction where only the--half the genes of--of
11 each parent become transmitted to the offspring,
12 that that's not what neo-Darwinism would--would
13 lead one to think should happen. So how do you--
14 how do you get bisexual reproduction? That might
15 be one. I don't--I don't know.

16 I mean, certainly, there are particular
17 kinds of cases, the things that Behe talks about,
18 in--in cellular biology and biology. There's--
19 there's the kind of problem that Gould tried to
20 address with punctuated equilibria, the rapid
21 transitions in evolution. I suspect that's
22 probably one. And then the absence of--of fossil--
23 intermediate fossils in those kinds of cases. I
24 suspect those are the kinds of things, but I don't

25

1 know what in particular the authors meant.

2 Q Well, let me just test--see if I understand--strike
3 that.

4 I'd like to ask you if you have an
5 understanding as to the structure of this sentence.
6 One way to read it is that students will be made
7 aware of gaps/problems in Darwin's theory and that
8 they will be made aware of gaps/problems in other
9 theories of evolution.

10 A Yes.

11 Q Do you read it that way?

12 MR. GILLEN: Objection. Form.

13 Speculation.

14 A (Examines paperwritings.) I'm puzzled as to that
15 sentence, too. I--that seems to be--do you want to
16 suggest another reading to it?

17 Q Another reading might be "Students will be made
18 aware of gaps/problems in Darwin's theory, and
19 they"--

20 A And then made aware of other theories.

21 Q --"and then they will also be made aware of other
22 theories of evolution, including intelligent
23 design."

24 A Well, I suspect that's what it means because--

25

1 Q The latter?

2 A Right, probably, but--but I don't know.

3 Q Okay.

4 A I don't know.

5 Q In your view, is intelligent design another theory
6 of evolution?

7 MR. GILLEN: Objection. Form.

8 Speculation.

9 A Well, I mean, I--my impression is that at least
10 some, Behe says most, intelligent-design theorists
11 accept evolution. The question is the mechanism of
12 evolution. I don't know whether that's the case.
13 I--I just don't know whether most intelligent-
14 design theorists accept evolution in--in some form.
15 Well, I don't know.

16 Q Okay. So, if the school board had in mind that
17 intelligent design was an alternative theory of
18 evolution to Darwinian theory--

19 A Uh-huh (yes).

20 Q --you would say that that's not consistent with
21 your understanding of intelligent design?

22 A I'm sorry. Say that again? If--

23 Q If the school board--

24 A Uh-huh (yes).

25

1 Q --understood that intelligent design was a theory
2 of evolution--

3 A Uh-huh (yes).

4 Q --that stood in contrast to Darwinian--

5 A Uh-huh (yes).

6 Q --evolution, you would say that is not consistent
7 with your understanding of intelligent design?

8 A I guess what I want to say is that intelligent
9 design is certainly compatible with evolution, or
10 many--many intelligent-design theorists, my
11 impression is, accept evolution but reject natural
12 selection as the--as able to explain evolution.
13 But--but I just--I don't know what that sentence
14 means.

15 Q And isn't it also true that many intelligent-design
16 theorists don't accept that some aspects of
17 biological life--

18 A Uh-huh (yes).

19 Q --could not be the product of evolution?

20 A I mean, certainly, there are some who believe
21 that--

22 Q Behe, for example, doesn't use--

23 A Yeah. That's right. Not the product of
24 neo-Darwinian evolution.

25

1 Q Of evolution at all?

2 MR. GILLEN: Objection to form.

3 A No. I mean, I think Behe is--is an evolutionist.

4 I mean, he says that.

5 Q Doesn't his example of the bacterium flagellum--

6 A Well, the question is--

7 Q --posit that this organism is so irreducibly

8 complex that it could not have evolved?

9 A No. No. I think his position is that it can't
10 have evolved by neo-Darwinian mechanisms, that
11 there must be design, but the design doesn't have
12 to be a kind of miraculous intervention by a
13 supernatural god. And that's the point, again, in
14 my supernaturalism "A" and my supernaturalism "B."
15 It could be that there is design implicit in
16 nature, there's teleological causation in nature.
17 That's one of the possibilities. And Behe says
18 he's an evolutionist; he believes that evolution
19 has happened; it's just that natural selection as a
20 mechanism can't explain how evolution took place,
21 that there has to be a design in--in nature.

22 Now, how that design gets into nature,
23 again, is a complicated question, about which, I
24 suspect, intelligent-design theorists will

25

1 disagree. And that may be in part a philosophical
2 or a theological question. But that's different
3 from whether there actually is design in nature.

4 So I think--I think Behe is an
5 evolutionist. And I take it that--that at least
6 some other intelligent-design theorists are
7 evolutionists; it's just that they reject the
8 neo--neo-Darwinian explanation for evolution.

9 Q Neo-Darwinian in the sense now that it's
10 purposeless?

11 MR. GILLEN: Objection to the form.

12 A Well, in--in the sense that it relies on explaining
13 evolution in terms of natural selection acting on
14 the random mutation of genes, which is a
15 purposeless, unguided process, yes.

16 Q Okay.

17 A That is, one that does not rely on design
18 explanation or teleological causality. Yeah.

19 Q What is your understanding as to how Behe explains
20 the origin of the bacterium flagellum?

21 A Oh, I don't know. I can't explain that.

22 Q Or any phenomenon in life at all?

23 A Well, I mean--(pause)--

24 Q What I'm getting at is: Isn't design theory--

25

1 A Uh-huh (yes).

2 Q --a theory that design is manifest, without any
3 explanation as to how it got there?

4 A Well, my impression is that most design theorists
5 would say you can identify design and that it's
6 another question how it got there.

7 Q And intelligent-design theory stops short of
8 explaining how it got there, doesn't it?

9 A Yes.

10 Q The statement, curriculum statement, continues:
11 "The Origins of Life is not taught."

12 A Yeah.

13 Q Do you understand what that refers to?:

14 MR. GILLEN: Objection. Foundation.
15 Speculation.

16 A No, I don't. I mean, I--again, I can speculate,
17 but I don't--don't know what that refers to.

18 Q What do you think it refers to, or don't you even
19 think--have any thought on it?

20 A Well, one possibility would be that simply the--
21 the--I mean, it could be that--my--my understanding
22 is that some textbooks have chapters or sections
23 that deal with the origins of life out of nonliving
24 matter, and if that's what we mean by "the origins

25

1 of life," it could be that that question simply
2 isn't addressed in the--in the--in the curriculum.
3 That's a gap in the curriculum. So that--I mean,
4 that may be the case. I--so that if that's what we
5 mean by "origins of life," we just don't address
6 that here in--in our curriculum.

7 Q Let me pause right there.

8 A Okay.

9 Q And if you assume that that's what they mean--

10 A Well, I don't know what they mean. That's--

11 Q But if you assume--

12 A --speculation.

13 Q But if you--if you speculate--

14 A Yeah.

15 Q --and that's a way of assuming--

16 A Yeah.

17 Q --that that's what they mean, would you regard that
18 as a useful--how do you pronounce it?--pedagogical
19 approach, or is that counterproductive? For a
20 liberal education.

21 A For a liberal education--

22 MR. GILLEN: Nice, Chub, nice.

23 A All right. You make me--you make me say that

24 that's--that's counterproductive. But the--and I

25

1 can--I could--that's not the only possibility. The
2 other possibility would be that--another
3 possibility would be that they mean "We simply
4 don't raise religious or philosophical questions
5 about where life came from. We stick to science."
6 I mean, it could mean that. That might be a
7 somewhat naive view, but it--it could mean that,
8 too.

9 Q Okay. The statement continues, quote, "Intelligent
10 Design is an explanation of the origin of life"--

11 A Uh-huh (yes).

12 Q --"that differs from Darwin's view." What was
13 Darwin's view on the origin of life?

14 A I wouldn't--I wouldn't--I wouldn't write the
15 sentence that way, either. The point is--all
16 right. If--if "the origin life" does mean how do
17 you get from nonliving matter to--to life, then
18 there's no Darwinian explanation. And in fact, as
19 I understand it, that is a huge scientific mystery
20 still. We--we just don't know how--how that
21 happened either on grounds of methodological
22 naturalism or maybe any other, other than religious
23 or philosophical, I suppose. There are
24 possibilities there.

25

1 So--so, yes, if--if the reference is to
2 the transition from--from nonliving matter to
3 living matter, then there wasn't a Darwinian theory
4 about that. Darwinism only kicks in once you've
5 got reproduction.

6 Q So, if instead we read this as referring not to
7 "origin of life" but to "origin of species"--

8 A Origin of species and--and how did human beings
9 come to be out of prehomnids or--or whatever, then
10 it's true that intelligent design might well have--
11 or--or would have a different account of how that
12 story goes because of its willingness to use design
13 explanations.

14 Q If intelligent-design theorists are primarily
15 evolutionists, it's not really a different
16 explanation for the origin of life, is it?

17 MR. GILLEN: Objection to--

18 A Oh, sure it is. Sure it is.

19 Q It's only a difference from neo-Darwinism--

20 A Yes.

21 Q --not from Darwin's view, correct?

22 A No.

23 MR. GILLEN: Objection.

24 A It would also be from Darwin's view. And what

25

1 Darwin didn't have was modern genetics. But Darwin
2 still had natural selection, and that was the
3 mechanism that he thought worked on chance
4 variations. But he couldn't explain the chance
5 variations, and--and biologists couldn't till we
6 get modern genetics.

7 But, still, for Darwin--Darwin says in
8 his autobiography there's no more direction in
9 evolution than in the way the wind is blowing--how
10 does he put it?--there's no more design in--in
11 evolution than in the way the wind blows. And
12 Darwin was clear it was an unguided, purposeless
13 process.

14 So, if you--if you introduce design, if
15 you allow design explanations, you've at least got
16 the possibility for a--a quite different account of
17 how human beings come to be. Now, you--

18 Q Now, let me interrupt--

19 A Okay. All right.

20 Q --if I may, because I would ask you to point me to
21 the writings of any intelligent-design theorist
22 that claims there is a purpose in evolution and
23 explains what that purpose is.

24 MR. GILLEN: Objection to the form.

25

1 A I--I think that neo-design--pretty soon, we'll have
2 neo-design theory.

3 Q We already do.

4 A Intelligent-design theory is in its infancy, and--
5 and, you know, maybe--you know, it may be it won't
6 be long-lived. I--I don't know. But I don't think
7 there's anything like a full-fledged, at this
8 point, intelligent-design theory that--what, I
9 mean, Behe does is show that at the cellular level
10 there are various kinds of--of problems.

11 There are others--there are other gaps in
12 the evolutionary account that we talked about
13 earlier for which design explanations--for--for
14 which we might find or appeal to design
15 explanations, but--but I don't think there's
16 anything like a full-fledged intelligent-design
17 theory yet.

18 But still, what intelligent-design
19 theorists have come up with is very suggestive
20 and--and, I think, significant, in part because of
21 its implications, and particularly for its--the
22 questions it raises about the nature of science and
23 whether science needs to be defined more broadly.

24 Q Can we agree that, as you understand it,
25

1 intelligent design is not an explanation of the
2 origin of life in the sense of life going from
3 innate chemistry to living matter?

4 A I don't think that there's a complete theory there.
5 There's--that's my impression. Again, I mean,
6 I'm--I'm a philosopher looking at this literature
7 from some distance, but my impression is that
8 there's not a complete theory of how design figures
9 in at all stages of evolution, that there are some
10 gaps, some problems for Darwinists, and there are
11 some particular places where design looks like a
12 pretty obvious explanation where there are no
13 competing Darwinian explanations. So that there's
14 kind of the sketch of a--of an alternative theory
15 that's--that's available. But--but, obviously, a
16 lot of work still needs to be done to fill in that
17 sketch.

18 One other thing that I'd say here, too,
19 that seems to me to be important, and--and that is
20 that, I mean, one of the reasons that I take design
21 theory seriously as a possible explanation,
22 competing explanation, is that it seems to me that
23 you can make a fairly strong case for design in
24 cosmological evolution, the kind of anthropic

25

1 fine-tuning arguments that have received a lot of
2 discussion among cosmologists and philosophers.

3 Q Just--

4 A At one end--

5 Q Just so we are--are communicating, "cosmology"
6 meaning how the universe got to--

7 A Yes.

8 Q --be the way it is?

9 A Yeah. In the--in the wake of the Big Bang, the
10 very extraordinary set of coincidences that
11 allowed--that made this universe a universe that in
12 the end produces life. The--the extent to which
13 cosmologists and defenders of the naturalistic
14 worldview have to go to to re--to discredit that
15 idea usually requires the appeal to an infinite
16 number of universes, which is an extraordinary move
17 to make.

18 So--so, you--you get a kind of plausible
19 design argument out of fine--cosmological
20 fine-tuning. And on this end, thirteen billion
21 years later, there's--there's a fair amount of--
22 secular philosophers oftentimes reject naturalistic
23 explanations of the mind. One doesn't have to be
24 religious, by any means, to believe that naturalism
25

1 is inadequate to explain the mind, that you need--
2 that--that mind is something that requires a quite
3 different kind of explanation than modern science
4 and naturalism can--can provide.

5 So that at both ends of our thirteen-
6 billion-year history, you've got design that--that
7 oftentimes is--is argued for on secular grounds
8 rather than religious grounds. So that the
9 intervening stages of how life came to be and--and
10 biological evolution--that--that there are design
11 explanations which are now being made available
12 seems to fit a larger pattern than--so, in part--
13 that's one of the reasons that I take it seriously,
14 is that it--it fits that larger pattern, and you
15 don't just look at the--you don't have to just look
16 at the kinds of arguments that Behe makes about
17 cells. That's an important piece of the puzzle,
18 but--but the puzzle's a big puzzle.

19 Q Spanning thirteen billion years?

20 A Spanning thirteen billion years, yeah, that's
21 right.

22 MR. GILLEN: Let the record reflect it is
23 not a young earth.

24 THE WITNESS: Yeah.

25

1 Q The statement goes on to say, quote, "The school
2 leaves the discussion of the Origins of Life to
3 individual students and their families." In your
4 view, that is not a good thing, is it?

5 MR. GILLEN: Objection to form.

6 Q Shouldn't a liberal education address discussion of
7 origins of life?

8 A Yes. But--but again, I don't know exactly what the
9 authors meant by--

10 Q Whichever they mean--

11 A --teaching the origins of life.

12 Q --whether they mean converting from innate
13 chemistry to living matter--

14 A Yeah.

15 Q --or whether they mean how speciation occurred--

16 A Yeah.

17 Q --whichever they meant, you would think schools--

18 A Well--

19 Q --a liberal education should address it?

20 A A liberal education should, and invariably does.
21 It's just a question of whether it's implicit or
22 explicit.

23 Q Then this--there's an explanation, which reads,
24 quote, "The foregoing statements were developed to

25

1 provide a balanced view." Balanced among what, as
2 you--as you understand it?

3 MR. GILLEN: Objection. Form.
4 Speculation.

5 A Well, I suppose there are two ways of reading it.
6 One is balanced between--well, let me say the way
7 that I want--I want to read it. It's balanced
8 between design--between design views and
9 neo-Darwinian views.

10 Now, obviously, it's not balanced,
11 because the school teaches--the curriculum requires
12 and the textbooks are full of neo-Darwinian
13 evolution, so it's not balanced in the sense of
14 equal time, and it shouldn't be. I--I don't argue
15 for equal time. But it is--it's balanced in the
16 sense that it acknowledges that there are
17 alternative ways of understanding nature that--
18 that--it acknowledges that there are alternative
19 ways of understanding nature, so that students
20 don't just think that the only explanation is--is
21 the neo-Darwinian explanation.

22 So, in a kind of minimal sense of
23 "balanced," it--it acknowledges that there's an
24 alternative. It makes students aware of the fact
25

1 that there's an alternative. But it's not balanced
2 in the sense of equal--equal time, of course.

3 Q There's a sentence in the explanation at the
4 bottom: "The Superintendent has directed that no
5 teacher will teach Intelligent Design, Creationism,
6 or present his or her, or the Board's, religious
7 beliefs." From that combination of references,
8 would you infer that intelligent design,
9 creationism, and religious beliefs, either by
10 teachers or the board, are all wrapped together as
11 of one nature?

12 A No.

13 MR. GILLEN: Objection. Speculation.

14 A No. No, I--again, I don't know, but--but that's
15 certainly not the way I would read it. That's a
16 series of possibilities, and they don't all have
17 to--to be religious.

18 Q Okay. And then it continues--

19 A Okay.

20 Q --"The Dover Area School District supports, and
21 does not discriminate against, students and parents
22 who have competing beliefs, especially in the area
23 of the Origin of Life debate." That's a reference
24 to competing religious beliefs, is it not, the

25

1 culture wars?

2 A Well, competing beliefs wouldn't have to be
3 religious beliefs. They could be naturalistic or
4 secular or atheistic beliefs.

5 Q That's what I reference when I say "the culture
6 wars," between--

7 A Yeah. Yeah.

8 Q --secular versus religious.

9 A Okay. All right. All right. Yeah.

10 Q Isn't that how you understand this? This is a
11 reference to the culture wars that we talked
12 about--

13 A Well, yeah, but then I--

14 Q --at the beginning?

15 A You remember I--I also said that there's two
16 readings of "culture wars." One is religious
17 versus secular; the other is liberal versus
18 conservative. And so it gets messy.

19 Q Do you understand this to be liberal versus
20 conservative?

21 MR. GILLEN: Objection. Foundation.

22 A Well, again, I don't know. All I can do is--is
23 speculate, and I suspect that it--it--yeah, it
24 applies. It says that we--we're trying to be

25

1 religiously neutral, I suspect, as the Supreme
2 Court requires us to be, and that means we're not
3 going to discriminate--discriminate against any
4 people in terms of their religious beliefs or their
5 nonreligious beliefs.

6 Q Then it continues: "School districts are forums
7 for inquiry and critical discussions. The above
8 statement and the District's revised Biology
9 curriculum together provide an opportunity for open
10 critical discussion." You would disagree with
11 that, wouldn't you--

12 A As--

13 Q --at least not at school here?

14 A Not nearly as open and as critical as it should be.
15 The question is whether this is minimally--whether
16 this is acceptable, I guess. And, you know, I
17 think it's acceptable, but--but I would--I would go
18 much further.

19 MR. WILCOX: Okay. Time for another
20 break?

21 MR. GILLEN: Yeah.

22 -----

23 (SEVEN-MINUTE RECESS)

24 -----

25

1 MR. WILCOX: If you don't mind, would you
2 mark this as Nord Exhibit 3--or 4, I guess this is.

3 (PLAINTIFF'S DEPOSITION EXHIBIT NO. 4

4 MARKED FOR IDENTIFICATION)

5 Q (By Mr. Wilcox) Let me show you what's been marked
6 as Exhibit 4 to your deposition.

7 MR. GILLEN: I heard about this.

8 Q And I'll ask if you have encountered that before.

9 A (Examines paperwritings.) No, I haven't.

10 Q Are you familiar with an organization called the
11 Center for the Renewal of Science and Culture?

12 A Is--I've heard--I've heard of it. That is part of
13 the Discovery Institute, is it?

14 Q Correct.

15 A Yeah.

16 Q The Center, according to this, is directed by Dr.
17 Stephen Meyer. Have you heard of him?

18 A Yes. Yes, I have.

19 Q Do you understand him to be one of the intelligent-
20 design-theory proponents?

21 A Yes.

22 Q "The Wedge Strategy" is the title of the document.
23 Have you heard of the wedge strategy before?

24 A Oh, I've certainly heard the term "the wedge" used

25

1 before, in connection with Phillip Johnson, but--

2 Q Have you heard it used before in connection with
3 intelligent-design theory?

4 A Yeah. Yeah.

5 Q What do you understand the wedge strategy to be so
6 far as intelligent-design theory is concerned?

7 A Only in the most general sense, it's, I guess,
8 the--the use of design experience--design arguments
9 to--to underwrite a somewhat different
10 understanding of--a radically different
11 understanding of nature from that that modern
12 science and methodolo--methodological naturalism
13 allow for. That is, an understanding of nature
14 which is--which is designed rather than, as
15 neo-Darwinism would say, an unguided, purposeless--
16 would have it, an unguided or purposeless project--
17 process.

18 Q Okay. According to "The Wedge Strategy," the
19 paragraph at the next to the bottom of Page 1,
20 quote, "Discovery Institute's Center for the
21 Renewal of Science and Culture seeks nothing less
22 than the overthrow of materialism and its cultural
23 legacies. Bringing together leading scholars from
24 the natural sciences and those from the humanities

25

1 and social sciences, the Center explores how new
2 developments in biology, physics, and cognitive
3 science raise serious doubts about scientific
4 materialism and have reopened the case for a
5 broadly theistic understanding of nature." Do you
6 understand that the "new developments in biology"
7 referred to here is intelligent-design theory?

8 A I guess. I haven't read this document, so I--

9 Q Okay. Let's continue. Under "Five Year Strategic
10 Plan Summary"--

11 A (Examines paperwritings.) Yes.

12 Q --on Page 2, it begins, quote, "The social
13 consequences of materialism have been devastating."
14 It continues, "In order to defeat materialism, we
15 must cut it off at its source." And it talks about
16 "a `wedge' that, while relatively small, can split
17 the trunk when applied at its weakest points." And
18 then it gets closer to what we've been talking
19 about here--

20 A Uh-huh (yes).

21 Q --and it says, quote, "The very beginning of this
22 strategy, the `thin edge of the wedge,' was Phillip
23 Johnson's critique of Darwinism begun in 1991 in
24 Darwinism on Trial, and continued in Reason in the

25

1 Balance and Defeating Darwinism by Opening Minds.
2 Michael Behe's highly successful Darwin's Black Box
3 followed Johnson's work. We are building on this
4 momentum, broadening the wedge with a positive
5 scientific alternative to materialistic scientific
6 theories, which has come to be called the theory of
7 intelligent design."

8 Is it your understanding that the design
9 institute--I'm sorry--the Discovery Institute
10 purposefully has promoted intelligent-design
11 writings and intelligent-design theory as a way of
12 developing the thin edge of the wedge into a
13 broader wedge?

14 MR. GILLEN: Objection. Speculation.

15 A You know, I--I haven't--I--I know what the
16 Discovery Institute is. I know that intelligent-
17 design theories--theorists often, maybe usually,
18 have some kind of affiliation with it. It's a kind
19 of think tank for intelligent-design theory. But
20 I've never--I don't--no, I did once. I went to the
21 Web site to track down a document, but I think that
22 was the only time I view--visited their Web site.
23 I've not read any of their materials, so I just
24 don't have any kind of independent understanding of
25

1 what their mission or--or goal is, other than
2 generally to support intelligent-design theory.

3 Q Okay. And then it continues, in this same
4 strategic-plan summary, quote, "Design theory
5 promises to reverse the stifling dominance of the
6 materialist worldview, and to replace it with a
7 science consonant with Christian and theistic
8 convictions." Is this the first you've heard of
9 that aspect of the Discovery--

10 A Well, I know that's a--

11 Q --Institute's program?

12 A --charge that's oftentimes made of intelligent-
13 design theory, that it's a kind of front for--by
14 its critics--for a religious worldview.

15 Q Do you know that--that Exhibit 4 is not by the
16 critics of intelligent design--

17 A No, I--yeah.

18 Q --but by the proponents of--

19 A Yeah. No, I--

20 Q --intelligent design?

21 A I appreciate--

22 MR. GILLEN: Objection. Foundation.

23 A No, I--I appreciate that fact. I'm--but you asked
24 me if I was familiar with that idea, and I'm

25

1 saying, yes, I'm familiar, because that's--that's a
2 claim that's oftentimes made by--made by critics,
3 and--and so I'm only familiar with it in that
4 sense.

5 Q Okay. If you turn to the page that's numbered
6 zero-one-two-four-four (01244)--

7 A (Examines paperwritings.) Yes.

8 Q --it refers to "The Wedge Strategy Progress
9 Summary," and under "Books," it says--

10 A Uh-huh (yes).

11 Q --"William Dembski and Paul Nelson, two Center for
12 the Renewal of Science and Culture Fellows, will
13 very soon have books published by major
14 publishers."

15 A Uh-huh (yes).

16 Q This is--the Dembski here is the same Dembski you
17 referred to earlier--

18 A Yes. Yes.

19 Q --as one of the leading proponents of intelligent
20 design?

21 A Uh-huh (yes).

22 Q Do you know Paul Nelson to be a proponent of
23 intelligent-design--

24 A Yes.

25

1 Q --theory?

2 A Yes.

3 Q I'm sorry?

4 A Yes. Uh-huh (yes).

5 Q And then it refers to Michael Behe's Darwin's Black

6 Box book. Do you understand him to be a leading

7 proponent--

8 A Yes. Uh-huh (yes).

9 Q --of intelligent design? And then it refers to, on

10 the last page, the goal of getting intelligent-

11 design theory out into television and radio, and

12 newspaper and magazine articles. That's the

13 popular press that you've referred to--

14 A Uh-huh (yes).

15 Q --where most of your reading about intelligent

16 design--

17 A Yes.

18 Q --has come from?

19 A Yeah. Well, I wouldn't say the popular press.

20 Most of it's come from reading scholarly work, not

21 the scientific--the nitty-gritty scientific stuff

22 but the--the more scholarly work in the kind of

23 philosophical questions that raise the--the

24 philosophical questions about design and--and

25

1 naturalism. That's where most of my impressions of
2 the movement come from.

3 Q If Exhibit 4 to your deposition is in fact a
4 statement by the leading proponent of intelligent-
5 design theory, would you still say that it--
6 intelligent-design theory passes the test that
7 you've set out in your report of being honestly
8 drawn from the evidence and not an ad hoc--

9 A Yeah.

10 MR. GILLEN: Object--

11 Q --view? This would cause that into question--call
12 that into question, wouldn't it?

13 MR. GILLEN: Objection to form.

14 A Not necessarily. That is to say, one can still
15 draw--I mean, just as one can have atheistic
16 reasons for liking neo-Darwinism but that doesn't
17 call into question the adequacy of neo-Darwinism,
18 so one can have theological or philosophical
19 convictions for a design--a world of design that
20 doesn't necessarily call into question the adequacy
21 of the actual design explanations.

22 So Dawkins and--and Daniel Dennett and
23 Stephen Jay Gould don't discredit Darwinism because
24 they argue from Darwinism to an atheistic world.

25

1 Gould says--in one of his essays, he says he really
2 likes the cold-bath theory of reality, that--that
3 somehow or another, a world without God, of--of
4 struggle, is a world that's--he finds, in his stoic
5 temperament, rather congenial. But that doesn't
6 discredit his work in paleontology. So you can
7 draw that distinction.

8 Now, you know, whether, in fact, their
9 theological convictions color their scientific
10 work, I can't say. What I--what I would argue is
11 that they needn't.

12 Q This, I think, might go a little beyond your report
13 but is drawn from some of your books. You have
14 expressed the view that schools, in order to be
15 fair, should take religion seriously--

16 A Uh-huh (yes).

17 Q --and that to do that, they should address
18 explicitly--I'll use your metaphor--religious
19 voices--

20 A Yes.

21 Q --as they relate to the subjects in the curriculum.
22 And I am curious as to selecting among the various
23 religious voices. Is it your view that schools
24 should present the religious voices that are

25

1 reflective of the community in which that school is
2 located?

3 A It depends in part on what the subject is.

4 Q Well, let's talk about evolution and biology.

5 A I would say that a biology textbook should have,
6 rather than the perfunctory introductory chapters
7 that they now have on scientific method, which may
8 not say anything other than--which offer--which
9 typically offer a short and--and perfunctory and
10 philosophically simplistic idea of scientific
11 method--that rather than that, textbooks should
12 have a substantive introductory chapter, in which
13 they locate biology historically and
14 philosophically in terms of our ongoing
15 discussion--not just current culture wars but
16 intellectual discussions, for example, about the
17 role of design in nature, and make students aware
18 of--of this larger intellectual and cultural
19 context, so that they can appreciate that what
20 they're going to study is controversial in certain
21 regards, and--and they aren't simply taught it as
22 if it's the only way of understanding nature.

23 Now, what--what points of view, what
24 alternatives do you--do you bring up? How much

25

1 space do you have? You--you always have to, in any
2 subject, balance depth with breadth. And so how
3 many alternative ways of understanding nature do
4 you include is going to be shaped in part by
5 judgments about how much space do you have to give
6 them to make them at least minimally coherent. Do
7 you include ten alternatives, but give them a
8 paragraph each, or do you include five alternatives
9 and give them two or three paragraphs each? And
10 it's--it's a complicated question.

11 In general, I think the idea should be:
12 Given the historical and philosophical debates
13 about how we make sense of nature, methodological
14 naturalism, questions of design, questions of God,
15 are there three or four or five ways of thinking
16 about nature that are historically and, in our
17 contemporary world, sufficiently important so that
18 students must--must be--should be made aware of
19 their existence if they're to be liberally
20 educated, if science isn't just to be a form of
21 socializing students into what contemporary--the
22 dominant way of understanding nature of
23 contemporary science? So, you know, I really can't
24 answer that question until you let me know how many
25

1 pages I can have and--and how sophisticated the
2 teachers are going to be.

3 I mean, that's another question, too.
4 Teachers aren't prepared to deal with that kind of
5 material, and so it's a matter of--of science
6 education for the science teachers and preparing
7 them to have a little broader understanding of what
8 science education is. And the science--national
9 science standards say students need to--science
10 should be taught in historical context. They just
11 don't fill that out in very interesting ways
12 philosophically speaking.

13 Q There are probably hundreds of millions of Hindus--

14 A Uh-huh (yes).

15 Q --who have a view of the meaning of life.

16 A Yeah.

17 Q Should that be taught in our public schools in
18 central Pennsylvania?

19 A I think all students should be required to take a
20 course in--high-school students should be required
21 to take a course in religious studies that exposes
22 them to the way several major religious traditions
23 understand the world. And I think it's good to
24 include an Eastern religion in there.

25

1 Q This raises another subject altogether. To what
2 extent, in your view, should the issues that we've
3 been talking about today--specifically, secular
4 versus religious ways of understanding the nature
5 of reality--be addressed, in your opinion, in a
6 high-school ninth-grade biology class, or would it
7 be better if they were addressed in a well-designed
8 comparative-religion, religious-studies class?

9 A Yeah. Well, my answer is--is both, in general.
10 That is to say, I argue for minimal inclusion when
11 courses deal with particularly important and
12 particularly controversial issues--religiously
13 controversial or religiously important issues.
14 There should be some minimal inclusion in an
15 economics course, a literature course, a science
16 course. It makes students aware of the
17 controversies, and what's controversial and what
18 isn't, and for whom.

19 But recognizing that that kind of minimal
20 inclusion isn't going to produce any deep
21 understanding on the part of students, I think that
22 a liberal education requires that they also take a
23 course in religious studies that gives them a more
24 in-depth understanding of several different--

25

1 several major religious ways of understanding the
2 world, both in their classical forms and with
3 regard to how we live our lives here and now. That
4 isn't going to happen any time soon.

5 And--and that's a--that's a very
6 controversial position. I--I think that's what the
7 liberal education requires. Indeed, I think if you
8 really spell out what constitutional neutrality
9 requires, that's the--the best way of having
10 neutral schools.

11 But it's--it's not just for religious
12 reasons. My theory of liberal education doesn't
13 just require--I mean, I--it's a broader theory.
14 It's one which I, in my--my own research and work,
15 have applied to religion, but the theory also
16 requires that students learn alternative secular
17 ways of making sense of the world when there are
18 controversies.

19 And--and that's--I mean, that's the
20 reason that I think my way of thinking about
21 liberal education applies to intelligent-design
22 theory, is because--I mean, just as students need
23 to learn about Republicans and Democrats, between
24 communitarian and--and liberal and neoclassical

25

1 ways of thinking about economics, they need to
2 understand different secular--different
3 scientific--different ways of understanding science
4 and the--and quite apart from any claims that I
5 want to make about religion.

6 Critical--the point of a liberal
7 education is to enable students to think
8 critically. And you can only think critically when
9 you understand alternatives to the--to the
10 conventional wisdom. And--and that's what we don't
11 do very well. As I said, education is more or less
12 serial socialization rather than any kind of
13 informed critical understanding. And--and so it
14 really doesn't have anything--the theory of liberal
15 education doesn't have roots in anything religious
16 or--it just happens that that's what I've applied
17 it to in most of my work.

18 Q One criticism that has been made of intelligent-
19 design theory is that it is essentially an argument
20 from ignorance--

21 A Yeah.

22 Q --meaning that intelligent design says, "If I see
23 something that I can't explain as a matter of
24 evolution"--

25

1 A Uh-huh (yes).

2 Q --"then it must be the product of design."

3 A Uh-huh (yes).

4 Q That's a sort of false dichotomy, is it not?

5 A Yeah. It--I mean, one--one could imagine there
6 being alternative--one could imagine there being
7 alternative naturalistic explanations to those of
8 neo-Darwinism. And--and maybe complexity theory is
9 an alternative naturalistic explanation. I just
10 don't know enough about it to say. In fact,
11 neo-Darwinism and intelligent-design theory seems--
12 seem to be the only two significant contenders
13 right now.

14 Q If one were to conclude that intelligent design was
15 not scientifically valid--

16 A Uh-huh (yes).

17 Q --at least as modern science is defined and
18 limited--is it your view that intelligent design
19 should nonetheless be taught because of its
20 willingness to--because of the vehicle it provides
21 for addressing questions of the purpose of reality?

22 A Well, I mean, right now, the crucial question is
23 whether it's science and whether our understanding
24 of science should be broadened enough to include

25

1 design explanations. Now, are you saying,
2 "Suppose, in the long run, we decide it isn't good
3 science; then should it still be included?"

4 Q Yes, because of its heuristic benefit, its
5 pedagogical benefit.

6 A Well, you know, in a sense, I want to say my
7 position is it should be included--considered good
8 science, so I don't--I'm not sure I want to
9 speculate about what happens if we decide it isn't
10 good science.

11 But, you know, I--I do think that
12 students should be made aware of--just as I think
13 they should be made--made aware of various kinds of
14 religious ways of understanding not just nature but
15 the economic world, or history, or human nature,
16 that there is some value in exposing students to at
17 least some kind of rudimentary understanding of
18 nature as being designed, even--even if intelligent
19 design--quite apart from intelligent-design theory.

20 There are theological and philosophical
21 arguments one can make for the idea there's design
22 in nature, some of which I--the philosophical
23 arguments, I happen to think are quite good, and
24 that provide a kind of alternative that give people

25

1 critical perspective on naturalism.

2 So--so, yeah. I mean, I want to say that
3 students should be exposed to the--to various ways
4 of understanding all of the subject matters that--
5 that they learn about in school if they're to think
6 critically about them. But I happen to think that
7 nat--that intelligent design has a reasonably good
8 chance of coming to be seen as--as good science,
9 although it's deeply controversial now. But the
10 controversy's itself a reason for educating--
11 making--making students aware of it.

12 Q Well, controversies sometimes are formed by loudly
13 proclaiming something.

14 A Yeah.

15 Q Just because there are some loud proclaimants--

16 A Uh-huh (yes).

17 Q --of an idea doesn't mean that it should become
18 part of the curriculum in public education, does
19 it?

20 A You know, I mean, one answer I want to give is,
21 well, you know, it depends on how loud the
22 proclaimants are, because students need to
23 understand cultural controversies. I mean, even--
24 even for things that aren't at all intellectually

25

1 respectable, students should understand something--
2 something about them. If they're important in our
3 culture, they should be given some perspective on
4 them.

5 But, you know, I want to say that the
6 intelligent-design argument isn't one primarily
7 about shouting louder. It's one that has serious
8 intellectual merit and that is part of, as I said,
9 a larger discussion about design that goes back to
10 cosmological fine-tuning and goes to how we
11 understand the mind. It fits into that larger
12 story. And it also fits vertically into--into a
13 history in which philosophers as well as
14 theologians and scientists have used design
15 explanations. So it's--it's--the idea that there
16 might be design in biological evolution or in our
17 understanding of biology fits into several larger
18 patterns, the vertical pattern of--of historical
19 understandings of nature and the contemporary
20 pattern of--it goes to cosmology and how we
21 understand the mind. It has a--so it has a
22 legitimate place because of its location in--in
23 those ongoing philosophical controversies.

24 (Pause.)

25

1 As well as in--in terms of the particular
2 kinds of intelligent-design arguments that are now
3 starting to be made by people like Dembski and--and
4 Behe. But--but those arguments are--aren't out of
5 the blue. They--they have cultural and
6 intellectual importance in part because they--they
7 fit in--into larger patterns that give them a kind
8 of credibility, I think. Possible credibility, at
9 least.

10 Q If a ninth-grade public-high-school biology course
11 were to teach the science that almost all
12 scientists believe is correct--

13 A Uh-huh (yes).

14 Q --and leaves it to churches and parents to instruct
15 on moral and metaphysical questions--

16 A Uh-huh (yes).

17 Q --what's wrong with that?

18 A Well, their students won't be educated, and
19 they'll--they'll be at the mercy of--of parents who
20 may or may not understand much about these larger
21 intellectual issues. Most of them won't understand
22 about these larger--larger intellectual and
23 philosophical issues, because they weren't
24 themselves liberally educated or well educated

25

1 about it. So a liberal education requires that--
2 that schools provide students some kind of an
3 understanding of these larger philosophical,
4 sometimes religious, questions. Otherwise, we
5 leave them unable to think critically about the
6 conclusions that we present to them.

7 Q And I take it, in your view, the ninth grade is
8 certainly none too early to start?

9 A I--no. I--I think there's a real question about
10 when students became--become mature enough to deal
11 with controversial kinds of issues and able to
12 understand the alternatives. So that I would say
13 there's a real difference between elementary and
14 secondary schools in when we start introducing them
15 to--to deeply controversial points of view and
16 arguments and discussions.

17 But ninth grade is when many students
18 study biology, and it may be the only time that
19 many students study biology. So that it's
20 essential that they get some introduction to the
21 fact that there are contending ways of
22 understanding nature at that time.

23 Q Would it be better, in your view, for high schools
24 to teach biology in the twelfth grade instead of

25

1 the ninth grade?

2 MR. GILLEN: Objection. Speculation.

3 MR. WILCOX: As to what his own view is?

4 MR. GILLEN: Well, yeah. What did you
5 ask him? I'm sorry, Chub. I thought you said--
6 should they do it?

7 THE WITNESS: I'm--I only speculate about
8 my own views.

9 MR. GILLEN: Okay. Good.

10 Q (By Mr. Wilcox) No, I detected in your last answer
11 the notion that because that's where high schools
12 teach biology that's where it has to be addressed.
13 But I'm saying--

14 A It's not the only place where it has to be
15 addressed. I mean, I think physics courses should
16 deal with the question of cosmological fine-tuning
17 and--

18 Q But I'm sticking with biology for a minute and--

19 A Yeah.

20 Q --and the meaning of life--

21 A Yeah.

22 Q --what--what--the question whether there is meaning
23 or purpose in biological life.

24 A Right.

25

1 Q I had the sense of your earlier answer that perhaps
2 it would be better if students were a little older
3 and more sophisticated when they were introduced to
4 these concepts. But I heard you to be saying since
5 that's where schools teach biology--

6 A Yeah.

7 Q --that's where they have to address this. And that
8 lead me--led me to my alternative suggestion:
9 Would it be better, in your view, for high schools
10 to defer teaching biology--and along with it,
11 teaching--

12 A Yeah.

13 Q --additional explanations as to the significance,
14 meaning, purpose of life--when students were a
15 little older and better able to grasp--

16 A Well, if students took biology when they were
17 seniors instead of freshman, they would probably be
18 in a better position to understand some of the
19 controversies. They would be more--they could be
20 more intellectually sophisticated and--and make
21 sense of it better. That's true. But--but
22 you're--you--you can't teach everything when
23 students are seniors. I mean, you've got to teach
24 them some things when they're in ninth grade, some

25

1 things when they're in tenth, and so on. And--and
2 you have--you have to balance that with arguments
3 that science educators would make about what the
4 proper sequence should be in teaching students the
5 sciences. And ninth grade isn't too early to give
6 them some sense of what's at issue. So, you know,
7 there are a lot of variables that you weigh when
8 you decide what--what to teach them when.

9 But, yes, in principle, it would be nice
10 if students were a little older and more mature and
11 better able to understand some of the issues than
12 they are in--in ninth grade. But then you might
13 have to teach physics in ninth grade, and then you
14 couldn't make the--they wouldn't understand some of
15 the alternatives there. So, you know, I don't know
16 how you sort that out.

17 Q If you would, turn to the top of Page 8 of your
18 report. The--you make some statements here that I
19 just need to have your help understanding.

20 A (Examines paperwritings.) Uh-huh (yes). Okay.

21 Q You say, quote, "Because scientific theories can be
22 confirmed they aren't mere speculation." I'm not
23 quite sure what you mean by that. Do you--

24 A Well, I think some people who talk about evolution
25

1 being--or, you know, Darwinism being a theory
2 mean--mean to discredit it by saying it's mere
3 speculation. So the scientific establishment has
4 responded in turn that a theory isn't mere
5 speculation and hypothesis, that the theories can
6 be confirmed.

7 And I think that's a--that's a valid
8 viewpoint. Theories can be confirmed. They can be
9 confirmed more or less. And, so, oftentimes,
10 neo-Darwinism--or evolution, the idea--the theory
11 of evolution is contrasted with heliocentric theory
12 or the theory of gravity, which have so much
13 confirmation that--that it's wildly misleading to
14 suggest they're mere speculation. And I--and I
15 agree with that.

16 So the--the effort on the part of--of
17 some opponents of evolution to say that it's a--
18 it's a--it's a mere theory, I think, missed the
19 legitimate scientific point that theories can be
20 confirmed.

21 Q Okay. And then you say, "I believe it is
22 appropriate for science texts"--and, I assume,
23 science teachers--

24 A Uh-huh (yes).

25

1 Q --"to teach students that most scientists believe
2 that neo-Darwinism is a confirmed theory."

3 A Yes.

4 Q And then you continue by saying, "Still"--which I
5 interpret as kind of a "however"--"the
6 distinction"--

7 A (Examines paperwritings.) Yes, you're right.
8 That's a still--that's a "however" "still."

9 Q --"the distinction rightly suggests that because
10 neo-Darwinism is a theory, its confirmation rests
11 not simply on observation"--

12 A As do facts.

13 Q --"but on a wide range of complex considerations
14 which are potentially open for reinterpretation."

15 A Yes.

16 Q Now, you lost me there, because I thought
17 confirma--theories are confirmed by observation and
18 not by a wide range of complex considerations.

19 A Oh. Facts--facts are things that we observe
20 directly. Theories hinge on all kinds of things we
21 can't observe directly.

22 So that--I mean, it's a fact that the cup
23 is right here. (Indicating.) I can observe it
24 directly. But that--the fact that the cup is made

25

1 out of electrons and protons and neutrons and
2 photons and, you know, all of those things--that's
3 a theory. That's--that has to do with atomic
4 theory. And--and I can't observe any of that stuff
5 directly. That's a--that hinges on all kinds of
6 scientific laws and--and complicated theories,
7 which have implications for our observations but--
8 but go way beyond our observations.

9 So that the theor--neo--neo-Darwinism as
10 a theory rests on a whole set of complex
11 considerations and complex kinds of arguments and--
12 and evidence. We can't observe evolution. And--
13 and that's important, because factual judgments can
14 be confirmed directly by virtue of our
15 observations; theories can be more or less
16 confirmed, but they go way beyond our immediate
17 observations.

18 So, most scientists, I think, believe
19 that neo-Darwinism is a confirmed theory. Now, I
20 would say probably--and I perhaps should have said
21 that--that its confirmation has a high degree of
22 probability for most scientists. Most scientists
23 accept it as a confirmed theory.

24 But because--but there's still a point to
25

1 the kind of objection that some people make to--to
2 evolution, because its confirmation rests on a
3 whole set of complicated considerations that are
4 perhaps open to alternative interpretation, namely
5 design interpretations.

6 Q Okay.

7 A But--but I think that students should be taught--
8 you know, I'm not in favor of--of balanced
9 treatment in the sense of giving equal time to
10 alternative theories. And in my ideal biology
11 textbook, you know, you don't give equal time to
12 Biblical creationism, or--or just limiting us to
13 scientific views, to design theory and to
14 establishment science, but, of course,
15 establishment science has got to receive most of
16 the--the time and--and--pages in the textbook and
17 hours in the--in the class. But you can't exclude
18 legitimate alternatives.

19 And so design theory has to be taken at
20 least seriously enough so students are made aware
21 of it and given, ideally, some sense of what it is.
22 Short of that, the kind of disclaimer that Dover
23 wants to have seems to me to be a very, very modest
24 step in the right direction.

25

1 Q Under the heading "The Present Case"--

2 A (Examines paperwritings.) Yes.

3 Q --you say, "By making students aware of the
4 controversy surrounding Darwin's theory of
5 evolution, including IDT, the Dover School District
6 is promoting legitimate, secular, pedagogical goals
7 and enhancing their science education and student
8 learning." Given some of the ambiguities,
9 inconsistencies, problems, and gaps that we've
10 noticed in the--

11 A Yeah.

12 Q --board's statement, and the fact that it is just
13 read and then abandoned for the rest of the--

14 A Yes.

15 Q --semester, do you think this might be an
16 overstatement here?

17 A (Examines paperwritings.) It is promoting a
18 legitimate, secular, pedalogic--pedagogical goal,
19 and it is minimally enhancing their science
20 education and student learning.

21 I mean, you're right. It's--it's--you
22 know, I--I think Judge Cooper's decision was
23 ludicrous because he thought that that little
24 disclaimer that they pasted in the Georgia

25

1 textbooks somehow or another conveyed the idea that
2 the--that the school board was on the side of--or
3 was--was opposed to--to teaching--teaching
4 evolution, in spite of the fact that the school
5 board chose the textbooks, which, as he
6 acknowledged, had hundreds of pages on evolution.

7 So, I mean, it's ludicrous to attach that
8 much importance to the sticker--which also, of
9 course, means, you know, why are you-all so upset
10 about it?--because it--it doesn't have that kind of
11 cosmological import.

12 But--but it serves the--the goal in a--in
13 a kind of mini--minimal but important way of--of
14 making students aware of the fact that there are
15 alternatives. And that in itself is worthwhile
16 even if it isn't nearly as--as--have the kind of
17 substantial implications that it--that it should.

18 I mean, as I said, I would have students
19 learn something much more about the philosophical
20 and historical issues relating to design and--and
21 methodological naturalism and neo-Darwinism than
22 is--than is usually done, but at least make them
23 aware of the fact that there's a controversy.

24 Q Okay. The controversy that you're referring to in

25

1 this statement--

2 A Uh-huh (yes).

3 Q --that we just quoted is as to whether there is or
4 is not purpose underlying life?

5 A It's--it's the--it's to make them aware of the
6 controversy regarding design explanations in
7 biology, yes, that--that there is an alternative
8 theory for understanding nature that--that involves
9 design explanations, yes, and so is--you know, I
10 want it to be much more substantial than it is
11 to--to really serve the purposes of liberal
12 education. But it--but it--it serves the minimal
13 purpose of alerting them to a controversy that's--
14 that's real and that's important.

15 Q And that's the contro--the controversy is--

16 A Is--is over whether design explanations have a role
17 in biology.

18 Q And by "design explanations" here--

19 A Uh-huh (yes).

20 Q --we're using it not in the sense of design of a
21 particular bacterial flagellum but rather in the
22 broader sense of "Is there purpose to life?" Is
23 that--

24 MR. GILLEN: Objection to form.

25

1 Q Isn't that what you mean?

2 A The--the two are related, but, I mean, intelligent-
3 design theory, insofar as it holds that there are
4 design explanations that are--are plausible, that
5 are reasonable explanations, is compatible with and
6 open to the possibility, then, that there is some
7 kind of larger design in nature. It's also open to
8 the possibility that there's a supernatural
9 explanation, but it doesn't require any of those
10 things.

11 But--but, yeah, I mean, I think that--
12 that the--that the controversy is over whether or
13 not--that--the--the underlying principle is that
14 when there's a controversy, students should be made
15 aware of different points of view.

16 Now, there's a controversy over
17 evolution. Some of the points of view are
18 religious. And I think they should be included
19 at--at some point in the--in the curriculum.
20 Where, is an important question, obviously.

21 But there are also--there is also a--a
22 scientific controversy, at least if we are willing
23 to have a somewhat broader definition of science
24 than establishment science holds. There's a

25

1 controversy about that, what it means to be
2 scientific. And students should inform--be
3 informed about that.

4 And--and then the controversy is, do
5 design ex--are design explanations legitimate? I--
6 I think, since there is a respectable case that can
7 be made for that, that students need to be made
8 aware of it. "Respectable" meaning, as we talked
9 before, in terms of arguments and evidence cited by
10 people who have credentials in science and who use
11 other aspects of science as--as--in the process of
12 being scientists, who--who don't flatly reject
13 everything that science has to say, and that aren't
14 incompetent and un--uneducated in establishment
15 science.

16 Q Let me see if you can agree with this--

17 A Okay.

18 Q --statement: Throughout your opinion, you have
19 referred to significant disagreement and important
20 controversies. Isn't it true that what makes the
21 controversy important is the implications as to
22 whether there is a meaning to life--

23 A Uh-huh (yes).

24 Q --other than sheer random, unguided, purposeless

25

1 actions of atoms?

2 A Yeah. I mean, that's what--that's what makes the
3 controversy important to most people. And--and I
4 can't--I don't know what--I've not talked with and
5 I've not read what the school board said about it,
6 so I--you know, I can't speak to--to that.

7 But, for most people, undoubtedly, that's
8 why it's important. That's not the only reason or
9 maybe even--I mean, that's one--one reason why
10 students should be educated about the controversy.

11 But the other reason is because there is
12 a debate, a controversy, among scientists about
13 what counts as a good and an adequate scientific
14 explanation. And that controversy in and of itself
15 is important enough to warrant refu--reference to
16 intelligent design, I think, in--in the curriculum.

17 Now--now, many people, no doubt, would--
18 would say, "I could care less about this--this
19 debate among scientists and--and who gets to count
20 as scientists and who doesn't. I believe what
21 Genesis tells me." I--I mean, of course. And
22 that's why this debate is so important to many
23 people.

24 But that's not the only reason it's
25

1 important. And--and the warrant of references to
2 intelligent design, and ideally some discussion of
3 it, stem from the fact that there is--there is a
4 serious intellectual controversy among scholars,
5 credible scientists, and philosophers who--some of
6 whom are secular, not--not religious, about the
7 nature of design in--the nature of design in
8 nature, the--whether--whether there's design in
9 nature. And, as I said, not just in biology but
10 also in cosmology, and also in how we understand
11 the brain and the mind, and in other areas of
12 science.

13 So it's not just this case, even though
14 that's the one people pick up on 'cause that's--
15 that's the one that is personally--it's a part of
16 our culture wars.

17 Q Do you believe ninth-grade biology students should
18 be taught that man and the species as we know them
19 today did not gradually evolve from other life
20 forms but appeared suddenly in the historical
21 record?

22 A If you mean should they be taught that that is
23 true, the answer is no. That--that would be, in
24 fact, an endorsement of a religious worldview, and
25

1 it would be unconstitutional and would also be--I
2 mean, it's a deeply controversial position held by
3 a minority of scholars.

4 So, no, they shouldn't be taught that
5 that's true. But as I said earlier, it seems to me
6 that an introductory biology text, whether in
7 undergraduate school or in high school, should
8 locate biology within historical and philosophical
9 controversies, so that if students are to be
10 liberally educated, they appreciate the tensions,
11 the conflicts, the overlaps between various ways of
12 making sense of nature.

13 So, yes, I think a Biblical text--I
14 mean--Biblical--a biological text--which is a
15 Biblical text to some people--a biological text
16 might well say something about creationism and
17 Genesis--not much, but a little--talk about the
18 differences between that and intelligent-design
19 theory, talk about other ways, maybe Lamarckian
20 evolution--

21 Q Would it be okay--

22 A --so--

23 Q --for a text, and teachers teaching in accordance
24 with the text, to explain to students that, you

25

1 know, for a long time, Western man thought that God
2 created the earth and everything in it just the way
3 the Bible said--

4 A Sure.

5 Q --and that notion has now been scientifically
6 discredited by everything we've come to understand
7 through study of the fossil record and the nature
8 of life processes?

9 A No. I--I think probably it would be const--legally
10 wise to--to qualify that last judgment and say that
11 most--many scientists--most scientists--

12 Q Ninety-nine-point-four--

13 A --believe something--believe something otherwise--

14 Q Ninety-nine and forty-four--

15 A --right--than simply say--

16 Q --one-hundredths percent?

17 A --than simply say the Bible is wrong.

18 Q But it--it would be okay, in your view, to teach
19 that ninety-nine and forty-four one-hundredths
20 percent, or whatever the number is--

21 A Yeah.

22 Q --think that that's--

23 A I argue, in--in that book and elsewhere, for what I
24 call the principle of cultural location and weight.

25

1 That is to say that when we locate students in
2 con--in--when we locate contemporary science or
3 contemporary economics or whatever in the larger
4 cultural conversation, students shouldn't just be
5 presented with alternatives like our cafeteria
6 line, again. They should be given some sense of
7 what the--what the majority positions are, what the
8 minority positions are, and for whom.

9 So, yes, I think sci--I think students
10 should be taught in biology classes that the
11 majority--the vast majority of scientists hold to a
12 neo-Darwinian view, but that not all of them do.

13 And I would, you know, want to convey the
14 idea that--that, of course, many scientists don't
15 deal with biology and neo-Darwinism, but of those
16 who do, the vast majority hold to neo-Darwinism;
17 but it isn't the only view, and--and there are
18 people who raise questions about it who have
19 credentials as--as scientists, and so you need to
20 learn something about it.

21 You don't give equal time to the two
22 points of view. Of course, the dominant
23 establishment view gets the most time and the most
24 pages in the textbook. But the other point of view

1 has to be mentioned. It has to be acknowledged.

2 MR. WILCOX: Thank you very much.

3 MR. GILLEN: Thank you, Chub. Thanks,

4 Warren.

5 (WITNESS EXCUSED)

6 -----

7 (WHEREUPON, THE DEPOSITION WAS CONCLUDED AT 12:38 P.M.)

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INSTRUCTIONS TO WITNESS:

Please read carefully the following Witness Certificates and then sign and date the appropriate certificate.

Do NOT sign both of them!

IF YOU MADE CORRECTIONS, SIGN CERTIFICATE (A):

CERTIFICATE OF WITNESS (A)

I, _____, a witness

in the above-entitled action, do hereby certify that I have reviewed the transcript of my deposition and have attached corrections to the same, along with the reason for each correction.

Signed this _____ day of _____, 2005.

(WARREN A. NORD, PH.D.)

IF YOU DID NOT MAKE CORRECTIONS, SIGN CERTIFICATE (B):

CERTIFICATE OF WITNESS (B)

I, _____, a witness

in the above-entitled action, do hereby certify that I have reviewed the transcript of my deposition and have made no corrections to the transcription.

Signed this _____ day of _____, 2005.

(WARREN A. NORD, PH.D.)

rrl: (6-7-2005)

1 STATE OF NORTH CAROLINA

-146-

2 COUNTY OF DURHAM

3 C E R T I F I C A T E

4 I, Rebecca R. LeClair, CVR, a Notary Public in and
5 for the State of North Carolina, duly commissioned and
6 authorized to administer oaths and to take and certify
7 depositions, do hereby certify that on June 7th, 2005,
8 WARREN A. NORD, PH.D., being by me duly sworn to tell the
9 truth, thereupon testified as above set forth as found in
10 the preceding 145 pages, his examination being reported by
11 me verbatim and then reduced to typewritten form under my
12 direct supervision; that the foregoing is a true and
13 correct transcript of said proceedings to the best of my
14 ability and understanding; that I am not related to any of
15 the parties to this action; that I am not interested in the
16 outcome of this case; that I am not of counsel nor in the
17 employ of any of the parties to this action; and that
18 signature of the witness was not waived.

19 IN WITNESS WHEREOF, I have hereto set my hand and
20 affixed my official notarial seal, this the 28th day of
21 June, 2005.

22 Notary Public

23 My Commission Expires 03/04/2006

24 Rebecca R. LeClair, CVR

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28

1 IN THE UNITED STATES DISTRICT COURT
 2 FOR THE MIDDLE DISTRICT OF PENNSYLVANIA
 3 CIVIL ACTION NO. 4:04-CV-2688

4	TAMMY J. KITZMILLER;)	
5	BRYAN REHM, CHRISTY REHM;)	
6	DEBORAH F. FENIMORE;)	A D D E N D U M
7	JOEL A. LIEB; STEVEN STOUGH;)	
8	BETH A EVELAND; CYNTHIA)	T O
9	SNEATH; JULIE SMITH;)	
10	ARALENE D. CALLAHAN)	D E P O S I T I O N
11	("BARRIE"); FREDERICK B.)	
12	CALLAHAN,)	O F
13)	
14)	W A R R E N
15	Plaintiffs,)	
16)	A.
17	vs.)	
18)	N O R D,
19	DOVER AREA SCHOOL DISTRICT;)	
20	DOVER AREA SCHOOL DISTRICT)	PH.D.
21	BOARD OF DIRECTORS,)	
22)	
23)	
24	Defendants.)	

14 -----
 15 PAGE LINE SHOULD READ REASON FOR CHANGE
 16
 17
 18
 19

20 Signed this the _____ day of _____, 2005.

21
 22 _____
 23 (WARREN A. NORD, PH.D.)

24 rrl: (6-7-2005)

1 Warren A. Nord, Ph.D.

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2 EXAMINATION INDEX

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1 Warren A. Nord, Ph.D.

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2 E X H I B I T I N D E X

3 Exhibit No. Description Page Marked

4 Plaintiff's 1 Federal Rule of Civil 5

5 Procedure 26 Disclosure
of Expert Testimony,
Warren A. Nord, Ph.D.

6

Plaintiff's 2 Dover Area School District 18

7 Board Press Release for
Biology Curriculum--

8 11-19-04
(P01307 and P01308)

9

Plaintiff's 3 District note on teaching 18

10 evolution
(000012)

11

Plaintiff's 4 "The Wedge Strategy," 106

12 Center for the Renewal
of Science & Culture

13 (P01240 through P01245)

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