IN THE UNITED STATES COURT OF APPEALS FOR THE ELEVENTH CIRCUIT

NO. 05-10341-I, NO. 05-11725-II

COBB COUNTY SCHOOL DISTRICT, COBB COUNTY BOARD OF EDUCATION, JOSEPH REDDEN, SUPERINTENDENT,

Appellants,

v.

JEFFREY MICHAEL SELMAN, KATHLEEN CHAPMAN, JEFF SILVER, PAUL MASON, and TERRY JACKSON,

Appellees	

On Appeal from the United States District Court for the Northern District of Georgia, Atlanta Division

BRIEF OF AMICI CURIAE OF THE NATIONAL SCIENCE TEACHER ASSOCIATION AND THE NATIONAL ASSOCIATION OF BIOLOGY TEACHERS IN SUPPORT OF APPELLEES AND AFFIRMANCE

SHALINI A. PATEL Kramer & Patel, LLC 170 Mitchell St., S.W. Atlanta, Georgia 30303 (404) 527-6645)

Attorney for *Amici Curiae* the National Science Teachers Association and the National Association of Biology Teachers

TABLE OF CONTENTS

		Page
	ATE DISCLOSURE AND CERTIFICATE OF STED PARTIES	
TABLE O	OF CONTENTS	i
TABLE O	F AUTHORITIES	ii
STATEM	ENT OF IDENTITY AND INTEREST OF THE AMICI	1
STATEM	ENT OF THE ISSUE	2
SUMMAF	RY OF THE ARGUMENT	2
ARGUME	ENT	3
I.	The Disclaimer Forces Educators Either to Violate Their Professional Standards or to Contradict the Disclaimer	3
	A. Science Educators Have a Professional Duty to Teach Evolution as a Central, Unifying Concept in Biology	3
	B. The Disclaimer Conflicts with Science Educators Professional Duty to Teach Evolution as a Central, Unifying Concept of Biology	6
II.	The Disclaimer Discourages the Teaching of Evolution, to the Detriment of Science Education	8
III.	The Disclaimer Entangles Teachers with Religion	9
IV.	"Theory, Not Fact" Textbook Disclaimers Serve Sectarian Interests	11
CONCLU	SION	1./

TABLE OF AUTHORITIES

Cases
Edwards v. Aguillard, 482 U.S. 578 (1987)
McLean v. Arkansas Board of Education, 529 F.Supp. 1255, 1264 (E.D.Ark. 1982)
Other Authorities
AAAS, <u>Board Resolution on Intelligent Design Theory</u> (2002)
Dean, "Evolution Takes a Back Seat in U.S. Classes," <i>New York Times</i> at F.1 (February 1, 2005)
Eagle Forum of Alabama as an "Evolution Warning Label." Eagle Forum Education & Legal Defense Fund, "Evolution Warning Labels for Alabama Texts," <i>in</i> Education Reporter: The Newspaper of Education Rights (Dec. 1995)
Institute for Creation Research, "The Supreme Court decision and its meaning," Impact 170 (August 1987)
Message From the Alabama State Board of Education," (November 08, 2001)13
NABT, Statement on Teaching Evolution (1995, revised 1997, 2000, 2004)5
NAS, <u>Teaching About Evolution and the Nature of Science</u> 56
NSTA Press Release, "Survey Indicates Science Teachers Feel Pressure to Teach Nonscientific Alternatives to Evolution" (March 24, 2005)
NSTA, <u>Position Statement on The Teaching of Evolution</u> (2003)
Opinion by Texas Attorney General Mattox, see http://www.oag.state.tx.us/opinions/op47mattox/jm-0134.htm

Science Framework for California Public Schools Kindergarten Through Grade
Twelve, "Policy Statement on Teaching Natural Science" xi (1990)10
"Statement on Evolution in Textbooks" 1 (1999), originally published in
Reports of the National Center for Science Education, 19 (1):11, see
http://www.ncseweb.org/resources/articles/evolutionintextbooks.pdf6
Scott, Evolution versus Creationism (2004)

STATEMENT OF IDENTITY AND INTEREST OF THE AMICI

Amici represent the largest professional organizations of science teachers in the United States. Their members have a direct professional stake in the outcome of this case because teachers directly bear the consequences of school board policies and associated implementations thereof such as the Cobb County disclaimer. Such policies and statements are implemented in the classroom.

The National Science Teachers Association ("NSTA"), founded in 1944, is the largest organization in the world committed to promoting excellence and innovation in science teaching and learning for all. The current membership of NSTA is more than 55,000, and includes science teachers, science supervisors, administrators, scientists, business and industry representatives, and others involved in and committed to science education.

The National Association of Biology Teachers ("NABT") is the oldest science education organization in the United States. It represents more than 9,000 teachers of biology from the kindergarten through the college level. NABT works to empower educators to provide the best possible biology and life science education for all students.

STATEMENT OF THE ISSUE

Whether the warning label required by the Cobb County School District in biology textbooks has the effect of endorsing religion, and entangles teachers with sensitive religious issues in the science classroom.

SUMMARY OF THE ARGUMENT

The disclaimer sticker (hereafter, "disclaimer") affixed to biology textbooks in the Cobb County School District ("District") from 2002 until removed in May 2005, states:

"This textbook contains material on evolution. Evolution is a theory, not a fact, regarding the origin of living things. This material should be approached with an open mind, studied carefully and critically considered."

The disclaimer negatively affects science education because it conveys the incorrect impression that evolutionary theory is not well-established science, and it employs the scientific terms "fact" and "theory" incorrectly. Because the disclaimer conflicts with their knowledge of science, educators are put in a position where they must either contradict the disclaimer or violate their own professional standards. By selecting only evolution for special comment, the disclaimer implies that evolution is exceptionally controversial as science. This misinforms students, intimidates teachers, and makes it less likely that evolution will be taught. The

2

¹ See Order, Selman v. Cobb County School District (N.D.Ga. Jan. 13, 2005) at 8.

negative consequences for science education makes hollow the claim that the disclaimer has a valid pedagogical purpose.

By casting doubt on the scientific solidity of evolution, the Cobb County disclaimer implicitly provides support for the sectarian religious view of creationism, an impermissible religious effect. Educators are forced to either endorse or disavow the message of the disclaimer, which inevitably entangles them in religious issues.

ARGUMENT

I. <u>The Disclaimer Forces Educators Either to Violate Their Professional Standards or to Contradict the Disclaimer</u>

By wrongly implying that evolution is scientifically controversial, the disclaimer forces teachers either to violate their professional duty to present the consensus understanding of science, or to contradict the disclaimer required by the school board. The disclaimer also uses the key scientific terms, "theory" and "fact" in a misleading way, which teachers can only redress by correcting the disclaimer in their classes.

A. Science Educators Have a Professional Duty to Teach Evolution as a Central, Unifying Concept in Biology

Science teachers in elementary, middle, and high schools are expected to introduce students to topics like biology, chemistry, and physics by presenting the

standard, consensus understanding of a scientific field to their students in an ageappropriate manner. The consensus understanding of a field of science is determined by educators in consultation with professional scientists. The American Association for the Advancement of Science ("AAAS," the world's largest scientific association) has adopted an official policy stating:

"The contemporary theory of biological evolution is one of the most robust products of scientific inquiry. It is the foundation for research in many areas of biology as well as an essential element of science education. To become informed and responsible citizens in our contemporary technological world, students need to study the theories and empirical evidence central to current scientific understanding." ²

Science educators agree that evolution is a central, organizing principle of science, with special importance for the biological sciences. *Amicus* National Science Teachers Association ("NSTA") official policy states:

"Science curricula, state science standards, and teachers should emphasize evolution in a manner commensurate with its importance as a unifying concept in science and its overall explanatory power."

Amicus National Association of Biology Teachers ("NABT") shares the view that evolution is a core component of biology and an essential part of science education. The NABT official policy states:

³ NSTA, <u>Position Statement on The Teaching of Evolution</u> 1 (2003), see http://www.nsta.org/main/pdfs/PositionStatement Evolution.pdf.

4

² AAAS, <u>Board Resolution on Intelligent Design Theory</u> 1 (2002), see http://www.aaas.org/news/releases/2002/1106id2.shtml.

"Evolutionary theory holds a unique prominence in biology and science for its unifying properties and predictive features, the clear empirical testability of its models, and the richness of new scientific research it fosters. Evolution should be a recurrent theme throughout biology courses."

Science educators also widely agree that anti-evolution disclaimers in textbooks misrepresent the scientific status of evolution and undermine the forthright teaching of evolution, thereby, mis-educating students. The NSTA "Statement on the Teaching of Evolution" states a clear position against anti-evolution disclaimers:

"Science textbooks shall emphasize evolution as a unifying concept. Publishers should not be required or volunteer to include disclaimers in textbooks that distort or misrepresent the methodology of science and the current body of knowledge concerning the nature and study of evolution."

Twenty-three authors of widely-used biology textbooks issued a joint statement in 1999 regarding the damaging effects of anti-evolution disclaimers on science education:

"We also deplore the efforts made in some states and districts to require that evolution be disclaimed. Such disclaimers single out evolution from all other scientific ideas as somehow less reliable or less accepted by scientists, or as 'only a theory.' Evolution is a normal part of science, and should be treated the same way as all other scientific ideas. It does a disservice to students to mislead them about

⁴ NABT, <u>Statement on Teaching Evolution</u> 1 (1995, revised 1997, 2000, 2004), see http://www.nabt.org/sub/position statements/evolution.asp.

⁵ NSTA, <u>Position Statement on The Teaching of Evolution</u> 2 (July 2003), see http://www.nsta.org/main/pdfs/PositionStatement_Evolution.pdf.

the important position that evolution holds in biological and other sciences."

B. The Disclaimer Conflicts with Science Educators' Professional Duty to Teach Evolution as a Central, Unifying Concept of Biology

The Cobb County disclaimer conflicts with science teachers' professional duty to teach the consensus understanding of evolutionary theory as a central, indispensable, unifying concept in biology. At least two erroneous messages are conveyed by the disclaimer's deceptively simple statement: "Evolution is a theory, not a fact."

First, the disclaimer uses the word "theory" in a misleading manner. By contrasting "theory" with "fact," the disclaimer conveys the message that theories are unreliable compared to facts. In everyday language, the word "theory" is often used to mean an unsubstantiated idea or guess. In the context of science, however, the word "theory" is used for well-substantiated explanations of natural phenomena. The National Academy of Sciences ("NAS"), which provides authoritative scientific advice to the federal government, states:

"In scientific terms, 'theory' does not mean 'guess' or 'hunch' as it does in everyday usage. Scientific theories are explanations of natural phenomena built up logically from testable observations and

6

⁶ "Statement on Evolution in Textbooks" 1 (1999), originally published in <u>Reports of the National Center for Science Education</u>, 19 (1):11, see http://www.ncseweb.org/resources/articles/evolutionintextbooks.pdf.

hypotheses. Biological evolution is the best scientific explanation we have for the enormous range of observations about the living world."⁷

Secondly, because it selects <u>only evolution</u> from all other scientific theories, the disclaimer implies to students that evolution is a controversial <u>scientific</u> issue, which it is not. In the context of scientific knowledge, evolution is as well-established and well-accepted as atomic theory or Einstein's theory of relativity, for example. By singling out evolution and labeling it alone as "a theory, not a fact," the disclaimer conveys the message that evolution should be regarded with special skepticism.

The disclaimer's misleading use of key scientific terms adds an unnecessary element of confusion that teachers can only redress by criticizing the disclaimer. Teachers' professional standards require them to teach the correct scientific meanings of "fact" and "theory," and to explain accurately the high scientific status of evolution and its importance for basic science literacy. Teachers who wish to follow professional standards are put in the position of contradicting the school district's apparent position as expressed in the disclaimer.

⁷ NAS, <u>Teaching About Evolution and the Nature of Science</u> 56.

II. The Disclaimer Discourages the Teaching of Evolution, to the Detriment of Science Education

By its mere presence on textbooks, the disclaimer signals to both students and teachers that evolution is a "controversial" subject. This implication increases pressure on teachers to avoid teaching evolution.

Although there has been no proper scientific study, anecdotal data indicate that a significant percentage of teachers avoid teaching evolution altogether in order to avoid parental and student complaints and real or perceived pressure from principals or other administrators.⁸ An informal, nonscientific survey by *amicus* NSTA in 2005 found 19% of respondents agreed that it was necessary to "deemphasize or omit from their lessons the term 'evolution' so as not to draw attention to it." Thirty-one percent reported experiencing pressure, mostly from

_

The *New York Times* reported: "Dr. Frandsen, former chairman of the committee on science and public policy of the Alabama Academy of Science, said in an interview that this fear [teachers have of discussing evolution] made it impossible to say precisely how many teachers avoid the topic. 'You're not going to hear about it,' he said. 'And for political reasons nobody will do a survey among randomly selected public school children and parents to ask just what is being taught in science classes.'" It quoted Dr. Frandsen describing the remarks of a fearful teacher reporting feelings of intimidation: "She confided that she simply ignored evolution because she knew she'd get in trouble with the principal if word got about that she was teaching it,' he recalled. 'She told me other teachers were doing the same thing.'" Cornelia Dean, "Evolution Takes a Back Seat in U.S. Classes," *New York Times* at F.1 (February 1, 2005), see http://www.nytimes.com/2005/02/01/science/01evo.html.

parents and students, to include some form of creationism.9

The presence of the disclaimer immediately signals to the student that something is "wrong" with the contents of the textbook, that students should be wary. By implying that the textbook is unreliable, the disclaimer encourages distrust of the teacher and the school. To retain the trust of students and to avoid the complications of teaching evolution when it is apparently not fully supported by the school district, teachers may well choose to downplay or omit evolution.

The disclaimer would likely exert a significant chilling effect on the teaching of evolution. As discussed above, removing evolution from the curriculum, diluting its presence, or misrepresenting its scientific importance, would harm the education of all Cobb County students.

III. The Disclaimer Entangles Teachers with Religion

Educators know that some students may be sensitive or object on religious grounds to being taught evolution (among other subjects such as sex education). It is standard practice for science educators to direct students to discuss such objections with their parents or with religious professionals.¹⁰ However, the

⁹ NSTA Press Release, "Survey Indicates Science Teachers Feel Pressure to Teach Nonscientific Alternatives to Evolution" (March 24, 2005), see http://www.nsta.org/pressroom&news_story_ID=50377.

 $^{^{10}}$ E.g., "If a student should raise a question in a natural science class that the teacher determines is outside the domain of science, the teacher should treat the

presence of a school-board mandated disclaimer in every biology textbook increases the likelihood that teachers will face difficult and sensitive religious questions. Students may ask questions such as: Why is the disclaimer in my science book? What do you think about the disclaimer? Does it mean that evolution is wrong? Why does the school board think I should be suspicious of evolution?

If teachers avoid answering these questions, they risk appearing evasive or poorly informed. If teachers do answer these questions, they become entangled in discussion of religious issues. Because the disclaimer appears to cast doubt on evolution, students could easily infer that the district is endorsing the religious belief of creationism. 11 Students who belong to denominations that accept evolution, such as mainstream Protestantism, Catholicism, and Judaism, could reasonably ask why one religious group was given preferential treatment. practical effect, the disclaimer injects community religious differences into the

question with respect. The teacher should explain why the question is outside the domain of natural science and encourage the student to discuss the question further with his or her family and clergy." Science Framework for California Public Schools Kindergarten Through Grade Twelve, "Policy Statement on Teaching Natural Science" xi (1990).

¹¹ The perception that evolution and creationism are dichotomous choices is pervasive in American society. See Order, Selman v. Cobb County School District (N.D.Ga. Jan. 13, 2005) at 31-35.

science classroom. Therefore, the disclaimer entangles teachers and students in religious questions that have no place in the science classroom.

IV. "Theory, Not Fact" Textbook Disclaimers Serve Sectarian Interests

Although the disclaimer makes no explicit reference to any particular religious belief, it belongs to a long tradition of efforts by "creation scientists" to undermine or weaken the teaching of evolution because it conflicts with their religious beliefs.

As set forth in one of the previous cases on point, McLean v. Arkansas, creation science relies on a "contrived dualism," which holds that there are only two possible explanations for the appearance of life on earth: either the special creationism of some conservative Christians or the scientific theory of evolution. ¹² Under the assumptions of this contrived dualism, creationists think that denigration of evolution is sufficient to demonstrate the truth of special creationism. The Institute for Creation Research ("ICR") made this point immediately after the

_

¹² McLean v. Arkansas Board of Education, 529 F.Supp. 1255, 1264-66 (E.D.Ark. 1982). "The two-model approach of the creationists is simply a contrived dualism which has no scientific factual basis or legitimate educational purpose. It assumes only two explanations for the origins of life and existence of man, plants and animals: it was either the work of a creator or it was not. Application of these two models, according to creationists, and the defendants, dictates that all scientific evidence which fails to support the theory of evolution is necessarily scientific evidence in support of creationism and is, therefore, creation science 'evidence' in support of Section 4(a) [of the Arkansas 'Balanced Treatment for Creation-Science and Evolution-Science Act']." Id. at 1266.

Supreme Court struck down laws mandating equal time for creation science and evolution in Edwards v. Aguillard: 13

"In the meantime, school boards and teachers should be strongly encouraged at least to stress the scientific evidences and arguments against evolution in their classes (not just arguments against some proposed evolutionary mechanism, but against evolution per se), even if they don't wish to recognize these as evidences and arguments for creation (not necessarily as arguments for a particular date of creation, but for creation per se)." 14

"Theory, not fact" disclaimers have long been a major tactic to weaken confidence in evolution in favor of creationism. In response to creationist pressure, in 1974 the state of Texas required publishers to include a "theory, not fact" evolution disclaimer in textbooks purchased by the state. The practice

¹³ Edwards v. Aguillard, 482 U.S. 578 (1987).

¹⁴ Institute for Creation Research, "The Supreme Court decision and its meaning," *Impact* 170 (August 1987), see http://www.icr.org/pubs/imp/imp-170.htm.

¹⁵ Eugenie C. Scott, Evolution versus Creationism 130-31 (2004).

¹⁶ The Texas disclaimer stated: "Textbooks that treat the theory of evolution shall identify it as only one of several explanations of the origins of humankind and avoid limiting young people in their search for meanings of their human existence....

[&]quot;(A) Textbooks presented for adoption which treat the subject of evolution substantively in explaining the historical origins of man shall be edited, if necessary, to clarify that the treatment is theoretical rather than factually verifiable. Furthermore, each textbook must carry a statement on an introductory page that any material on evolution included in the book is clearly presented as theory rather than verified...." See http://www.oag.state.tx.us/opinions/op47mattox/jm-0134.htm.

ended in 1984 after the Texas Attorney General concluded that the disclaimer was unconstitutional on the grounds that it "failed to evidence a secular purpose."¹⁷

From 1995 to 2001, the state of Alabama required a "theory, not fact" disclaimer in biology textbooks. This disclaimer stated: ". . . any statement about life's origins should be considered as theory, not fact." Similar wording subsequently appeared in disclaimer policies proposed in numerous states and

_

The District Court here noted a similar rationale for the District disclaimer. Selman Order at 27-28, n.7.

The Texas Attorney General's opinion noted that the claimed reason for the Texas disclaimer was to assuage the religious concerns of citizens: "Clearly, the board made an effort, as it has stated, to 'insure neutrality in the treatment of subjects upon which beliefs and viewpoints differ dramatically.' In our opinion, however, the board, in its desire not to offend any religious group, has injected religious considerations into an area which must be, at least in the public school context, strictly the province of science...." Opinion by Texas Attorney General Mattox, see http://www.oag.state.tx.us/opinions/op47mattox/jm-0134.htm.

Alabama adopted in 2001 a disclaimer that continues to single out evolution for special treatment, but no longer contains "theory, not fact" language. "A Message From the Alabama State Board of Education," (November 08, 2001), see http://www.alsde.edu/html/boe resolutions2.asp?id=309.

The 1995 Alabama evolution disclaimer was heavily promoted by the creationist Eagle Forum of Alabama as an "Evolution Warning Label." Eagle Forum Education & Legal Defense Fund, "Evolution Warning Labels for Alabama Texts," *in* Education Reporter: The Newspaper of Education Rights (Dec. 1995), see http://www.eagleforum.org/educate/1995/dec95/biology.html.

communities, including Washington, Missouri, and Oklahoma, ¹⁹ as well as Cobb County, Georgia. ²⁰

Given the history and motivations behind "theory, not fact" disclaimers, it is reasonable to anticipate that students and others would infer that the Cobb County disclaimer is favoring a particular religious belief.

CONCLUSION

The Cobb County textbook disclaimer negatively affects science education because it uses key scientific terms incorrectly and because it wrongly implies that evolution is scientifically controversial and not well-established. It affects teachers

_

¹⁹ Additional documentation on state legislation regarding disclaimers is available at the website of the National Center for Science Education, Inc. See http://www.ncseweb.org/pressroom.asp?branch=statement.

²⁰ Each of the three sentences of the Cobb County evolution disclaimer appear to be directly derived from the Alabama disclaimers. The first sentence of the Cobb disclaimer reads: "This textbook contains material on evolution." The first sentence of the 1995 Alabama disclaimer reads: "This textbook discusses evolution, a controversial theory some scientists present as a scientific explanation for the origin of living things, such as plants, animals and humans." The second sentence of the Cobb disclaimer reads: "Evolution is a theory, not a fact, regarding the origin of living things." The second and third sentences of the 1995 Alabama disclaimer read: "No one was present when life first appeared on earth. Therefore, any statement about life's origins should be considered as theory, not fact." The final sentence of the Cobb disclaimer reads: "This material should be approached with an open mind, studied carefully and critically considered." The final sentence of the 2001 version of the Alabama disclaimer reads: "Instructional material associated with controversy should be approached with an open mind, studied carefully, and critically considered." For scans and side-by-side comparisons of the 1995 and 2001 Alabama stickers, see http://www.alscience.org/disclaimer.html.

negatively by requiring them either to accept the implications of the disclaimer,

violate their professional standards and mis-educate students, or to contradict the

disclaimer and, by extension, school district authority.

Furthermore, because it specifically singles out evolution for denigration, the

disclaimer gives implicit endorsement to the particular religious belief of

creationism. Its presence on textbooks raises questions about its purpose and

meaning which are inherently religious in nature and are improperly addressed in

the public school science classroom.

The amici science education organizations urge the court to uphold the

decision of the District Court and declare the Cobb County disclaimer

unconstitutional.

DATED: This the day of June, 2005.

Respectfully submitted,

Shalini A. Patel

Georgia Bar No. 565910

Kramer & Patel, LLC 170 Mitchell St., S.W.

Atlanta, Georgia 30303

(404) 527-6645

15

CERTIFICATE OF COMPLIANCE

I certify that this brief complies with the type-volume limitation set forth in FRAP 32(a)(7)(B) because this brief contains 2328 words.

Shalini A. Patel Georgia Bar No. 565910

Kramer & Patel, LLC 170 Mitchell St., S.W. Atlanta, Georgia 30303 (404) 527-6645

IN THE UNITED STATES COURT OF APPEALS FOR THE ELEVENTH CIRCUIT

COBB COUNTY SCHOOL DISTRICT, et al.)))	
Appellants,)	
)	Case Nos. 05-10341-I & 05-11725-II
V.)	
)	
JEFFREY MICHAEL)	
SELMAN, et al.)	
)	
Appellees.)	
)	

CERTIFICATE OF SERVICE

This is to certify that I have this date caused a true and correct copy of the foregoing Brief Amicus Curiae of the National Science Teacher Association and the National Association of Biology Teachers in Support of Appellees and Affirmance to be served upon the following counsel of record by causing same to be deposited in the United States mail in an envelope with adequate postage affixed thereto addressed as follows:

E. Linwood Gunn, Esq.

Brock, Clay, Calhoun, Wilson

& Rogers, P.C.

49 Atlanta Street

Marietta, GA 30060

Attorney for Appellants

Gerald Weber

Margaret Garrett

American Civil Liberties Union

70 Fairlie Street, Suite 340

Atlanta, GA 30303

Attorney for Appellants

Attorney for Appellees

Jeffrey O. Bramlett
David G.H. Brackett
Emily Hammond Meazell
BONDURANT, MIXSON & ELMORE, LLP
3900 One Atlantic Center
1201 W. Peachtree Street
Atlanta, Georgia 30309
Attorneys for Appellees

DATED: This the ___ day of June, 2005.

Shalini A. Patel

Georgia Bar No. 565910

Kramer & Patel, LLC 170 Mitchell St., S.W. Atlanta, Georgia 30303 (404) 527-6645