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Opportunistic Evolution: How State Legislation is Seeking to Redefine Academic Freedom to Permit Intelligent Design in the Classroom

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I. INTRODUCTION

The year 2009 has been labeled “The Year of Darwin.” Two hundred years after Charles Darwin’s birth and one hundred fifty years after the first publication of *On the Origin of Species*, Darwin graced the cover of *Science*, *Smithsonian*, and *Discover* magazines. In the United Kingdom alone, 132 organizations ranging from Cambridge University and the Oxford Museum of Natural History to the BBC and the Stroud Knitting Group planned events or programs to commemorate Darwin’s theory and its pervasive influence on the modern world. Creation — a feature film depicting the love, sadness, and upheaval in Darwin’s life as he wrote *On the Origin of Species* — opened the 2009 Toronto International Film Festival. West Virginia University organized “Darwin Fest,” a variety of lectures and events concerning various scientific and sociological interpretations of evolution; it also made evolution the organizing concept for its widely-acclaimed, annual lecture series, “The Festival of Ideas.” Other universities and communities across the country launched similar events to memorialize Darwin’s impact. Even popular magazines like Bark, a magazine for dog enthusiasts, included articles celebrating Darwin and evolution.

This cultural commemoration masks the resilient and longstanding controversy over the place of evolution in our nation’s public schools. To date, the Supreme Court has only twice considered the constitutionality of state laws governing the teaching of evolution or creationism. In 1968’s *Epperson v. Arkansas*, the Court found Arkansas’ complete prohibition of evolutionary education in public secondary schools and universities to violate the Establishment Clause. Although the Court is generally reluctant to interfere in the operation of public schools, judicial intervention was necessary because the law “directly and sharply” implicated the First Amendment. Despite using “less explicit

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4 See West Virginia University, DarwinFest: Events, http://darwinfest.sitespace.wvu.edu/events (last visited Jan. 24, 2010).
8 Id. at 104.
9 See id.
language” than the law banning evolution education in *Scopes v. Tennessee*,
Arkansas provided “[n]o suggestion that its purpose was anything but religious.”
Ultimately, the Court found “no doubt” that the prohibition was enacted “because it is contrary to the belief of some that the Book of Genesis must be the exclusive source of doctrine as to the origin of man.”

Nearly two decades later in *Edwards v. Aguillard*, the Supreme Court invalidated Louisiana’s “Equal Time” Creationism Act because of its unconstitutional religious purpose. The Creationism Act gave educators and administrators two options: ignore evolution altogether or teach it accompanied by “creation science,” that is, “the scientific evidences for [creation and evolution] and inferences from those scientific sources.” This time, the Court paid particular attention to the unique role of public elementary and secondary schools not only in educating students, but also in shaping students’ beliefs and promoting American democracy. The Court found, first, that the Act failed its stated purpose of “academic freedom” because it failed to expand teachers’ abilities to comprehensively present scientific information, ultimately undermining education in the sciences. Second, the Court found “historic and contemporaneous antagonisms” between teaching evolution and the beliefs of certain religious denominations such that the Act’s preeminent purpose was “clearly to advance [a] religious viewpoint ...”

Ultimately, however, *Edwards’* finer policy implications — namely, whether and/or how states might permit the teaching of non-evolutionary ideas about the inception and development of life — remained less than crystal clear. One of *Edwards’* deciding factors was the historical conflict between evolutionary theory and many religious beliefs, as well as clear evidence that the Louisiana legislature “restructure[d] the science curriculum to conform with a particular religious viewpoint.” At the same time, however, the Court specifically denied that its holding would prohibit “scientific critiques of prevailing scientific theories” to be taught in public schools so long as “done with the clear secular intent of enhancing the effectiveness of science instruction.”

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10 *Id.* at 109. *See also* *Scopes v. State*, 278 S.W. 57 (Tenn. 1926) (upholding the constitutionality of the Butler Act, a law making it unlawful “to teach any theory that denies the story of the Divine Creation of man as taught in the Bible, and to teach instead that man has descended from a lower order of animals”).
11 *Epperson*, 393 U.S. at 107.
12 *Id.*
14 *Id.* at 581 (quoting LA. REV. STAT. ANN. §§ 17:286.3(2)–(3) (1982)).
15 *Id.* at 584 (quoting Illinois ex rel. *McCollum v. Bd. of Educ.*., 333 U.S. 203, 231 (1948)).
16 *Id.* at 587.
17 *Id.* at 591.
18 *Id.* at 593.
19 *Edwards*, 482 U.S. at 593–94.
If Edwards failed to completely close the door on the teaching of “scientific creationism” or “intelligent design,” in what ways might such a program be structured? Several states capitalized on Edwards’ “scientific critiques or prevailing scientific theories” language to promote state-level “Academic Freedom Acts.” At the same time, cases percolating through the lower courts have consistently disallowed public school instruction in “intelligent design” by prohibiting evolutionary disclaimers, whether oral or affixed to textbooks by allowing schools districts to require the teaching of evolution and, in one much-publicized case, by prohibiting the teaching of intelligent design as violative of the Establishment Clause.

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20 See generally discussion at infra Part IV.
21 Freiler v. Tangipahoa Parish Bd. of Ed., 185 F.3d 337 (5th Cir. 1999). The Tangipahoa Parish oral disclaimer stated, in part:

[It] is the basic right and privilege of each student to form his/her own opinion and maintain beliefs taught by parents on this very important matter of the origin of life and matter. Students are urged to exercise critical thinking and gather all information possible and closely examine each alternative toward forming an opinion.

Id. at 341. The Fifth Circuit held that the disclaimer failed its secular purpose of encouraging informed thinking and critical analysis. Id. at 344. The disclaimer also impermissibly advanced religion generally and Christianity explicitly. Id. at 348. Finally, the disclaimer ultimately violated both the Lemon and endorsement tests. Id.

22 Selman v. Cobb County Sch. Dist., 449 F.3d 1320 (11th Cir. 2006). After several parents objected to the Cobb County School District’s new biology textbooks, its school board conditioned their adoption on the inclusion of a disclamatory sticker. Id. at 1327. The sticker read: “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.” Id. at 1337. The lower court agreed that the sticker served the legitimate secular interests of fostering critical thinking and reducing offense to students and parents, id. at 1325, but nonetheless held that the sticker violated the Establishment Clause because an informed, reasonable observer would perceive the sticker as a message of endorsement,” see id. at 1327–28. On appeal, the Eleventh Circuit explicitly disclaimed any opinion on the outcome of the case but vacated and remanded to the district court for additional evidentiary findings. Id. at 1338.

23 Peloza v. Capistrano Unified Sch. Dist., 37 F.3d 517 (9th Cir. 1994). Peloza, a high school biology teacher, sued the Capistrano Unified School District alleging that “evolutionism” was a religion and that the school district’s requirement that he teach it violated, inter alia, the Free Speech and Establishment Clauses of the First Amendment. Id. at 519. The Ninth Circuit concurred with the district court in finding that evolutionary theory is not a religion, and therefore requiring an instructor to teach it does not violate the Establishment Clause. Id. at 521–22. The Ninth Circuit also affirmed the school’s “comprehensive authority . . . to prescribe and control conduct in the schools” consistent with constitutional limits. Id. at 522 (quoting Tinker v. Des Moines Indep. Cmty. Sch. Dist., 393 U.S. 503, 506–07 (1969)). These may include avoiding Establishment Clause problems such as advancing religion and entangling the school with religion. Id. at 522.

24 Kitzmiller v. Dover Area Sch. Dist., 400 F. Supp. 2d 707 (M.D. Penn. 2005). In 2004, a group of plaintiffs contested that evolution-related oral disclaimer adopted by the Dover Area School District constituted an establishment of religion prohibited by the First Amendment. Id. at 709. After a lengthy analysis, the district court held that “intelligent design” could not qualify as
Over the last decade, litigants tested the use of textbook and oral disclaimers of evolution and mandated references to intelligent design. In only the last six years, countless state bills have sought to expand academic freedom rights generally, disclaim evolution, or promote intelligent design. Additionally, eleven state legislatures have considered nearly thirty bills promoting “scientific critiques” of evolution under the guise of “academic freedom,” and in 2006 Louisiana became the first to actually enact one such bill. These science-centric academic freedom bills lie at the intersection between evolutionary and First Amendment jurisprudence and the unclear boundaries of academic freedom.

The overarching goals of this Note are twofold: first, to provide a chronological and comparative analysis of science-centric academic freedom legislation that states considered prior to January 1, 2010; second, to analyze how modern state interpretations of academic freedom deviate from historical understanding and raise significant interpretive and pragmatic concerns. To that end, Part II will provide a historical and judicial backdrop to the broader “academic freedom” debate. It will outline, first, the development and interpretation of academic freedom principles by academic individuals and organizations. Next, it will summarize the acknowledgement and interpretation of the principle by the United States Supreme Court and, where jurisprudential gaps exist, in the lower courts as well. Part III will bring these issues into focus by chronicling the development of state science-related academic freedom legislation. It will then distinguish ten elements and phrases common to the majority of introduced bills and summarize the source of the relevant language and its realistic implications. Finally, Part IV will conclude with a reiteration of how state-level, science-centric, academic freedom bills depart from the historical understanding of academic freedom.

II. ACADEMIC FREEDOM: PROFESSIONAL AND JUDICIAL INTERPRETATION

“Academic freedom” is the new rallying cry for legislators wishing to expand the scope of evolutionary education to include intelligent design and other “scientific critiques” of evolution. In the last six years, several state legislatures have debated, and even passed, legislation that would impart extensive academic freedom rights to individual teachers and students. States undoubtedly have the right to expand teachers’ and students’ rights beyond historical understanding and the “floor” set by the Constitution, but states’ central reliance on academic freedom principles provides, at best, an incongruous fit.

To shed light on the development of this area of the law and lay the foundation for its relationship to the evolution-intelligent design controversy, it is important to begin with a historical overview. The following sections sum-
marize, first, the American adoption, development, and defense of these academic freedom principles over the last 150 years; the second section summarizes the modern jurisprudence concerning the extent of such a right.

A. The Adoption and Interpretation of Academic Freedom by American Academics

The American concept of academic freedom has roots extending a century before the Supreme Court first penned the words. Up until the Civil War period, the paternalistic, authoritarian, and religious characteristics of early American universities inhibited scholarship and fostered academic intolerance. To lift universities above these impediments, George Templeton Strong made a radical proposal: permit professors “of great repute” and “splendid [in] name and ability” to have complete control over their university classes, thus paving the way for uninhibited scholarship, a “battle” for the best professors, and ultimately a stronger university as a whole. Strong’s suggestions proved fruitful, and by the turn of the twentieth century, faculty numbers had nearly doubled. As a byproduct of this newly competitive environment, professors clamored for professional tenure and certain academic freedoms.

By 1915, the American Association of University Professors (“AAUP”) had formed a fifteen-member interdisciplinary committee to outline general principles of academic freedom and propose a series of “practical proposals” for universities. These principles and proposals were reiterated in a more succinct statement by the AAUP in 1940, updated by interpretive comments released in 1970, and ultimately adopted by over two hundred academic and professional organizations and every major higher education organization in the United States. Both the 1915 and 1940 statements characterized three spheres of professorial academic freedom in which the professor should retain vast, though not necessarily unlimited, independence: research and publishing, on-topic

28 Id.
classroom discussions, and written or spoken comments made as a private citizen. AAUP's goals and justifications for academic freedom relied heavily on the social value of such a right, not its constitutional basis.

The professional and institutional benefits of these personal freedoms required corresponding obligations, however. Within the walls of academia, the professor's freedom to debate, research, and publish would be limited by the requirement that his or her results be made in "scientific spirit and method." In part because those unfamiliar with the professor's field would "lack full competency" to decide the quality of research, the outsiders' pronouncements could never be severed from "the suspicion that [they were] dictated by other motives than zeal for the integrity of science[.]" Instead, the validity and acceptance of any research would be subject to the rigors of its own academic discipline. The AAUP explained:

[I]t is highly needful, in the interest of society at large, that what purport to be the conclusions of men trained for, and dedicated to, the quest for truth, shall in fact be the conclusions of such men, and not echoes of the opinions of the lay public, or of the individuals who endow or manage universities.

Succinctly, the university should be an "inviolable refuge from [the] tyranny" of public opinion, but the professor should receive academic freedoms only with correlative fiduciary duties.

32 See AAUP 1915 DECLARATION, supra note 29, at 292 (protecting the "freedom of inquiry and research; freedom of teaching within the university or college; and freedom of extramural utterance and action"); AAUP 1940 STATEMENT, supra note 30, at 3-4 (entitling teachers to the "full freedom in research and in the publication of the results, ... freedom in the classroom in discussing their subject [subject to certain limitations], ... [and] free[dom] from institutional censorship or discipline" when "speak[ing] or writ[ing] as citizens"). The delineation of these spheres is likely rooted in the two correlative rights of academic freedom protected by German universities: Lehrfreiheit, which protected professors' classroom content and research from control by government or the church, and Lernfreiheit, the self-determinative right of students to choose their own courses of study. See HOFSTADTER & METZGER, supra note 26, at 386-87.

33 See AAUP 1915 DECLARATION, supra note 29, at 298; HOFSTADTER & METZGER, supra note 26, at 388-91 (discussing the dichotomy between the expansive "spiritual freedom" within the German universities and the legal and practical limitations on non-academic work and speech).

34 AAUP 1915 DECLARATION, supra note 29, at 298, 300 ("Such restraints as are necessary should ... be self-imposed, or enforced by the public opinion of the profession. ... What this report chiefly maintains is that such [disciplinary and regulatory] action cannot with safety be taken by bodies not composed of members of the academic profession.").

35 Id. at 297.
36 Id. at 294.
37 Id. at 297.
In recent years, professional and academic reiterations of academic freedom have largely mirrored these original tenets. In 2005, for example, the American Council on Education and twenty-nine other post-secondary educational organizations released a statement that outlined several key academic rights and duties. In its view, colleges and universities should promote civil, free exchanges of ideas and should guard against poor evaluative measures that rely on political opinion instead of intellectual achievement. In addition to maintaining the need for insulation from government interference, the statement also rejected the notion that all ideas have “equal merit” and explicitly reiterated the 1915 AAUP Declaration’s view that “[t]he validity of academic ideas, theories, arguments, and views should be measured against the intellectual standards of relevant academic and professional disciplines.”

**B. The Nebulous Judicial Parameters of Academic Freedom**

Although members of the Supreme Court have noted and discussed the relevance of academic freedom since the early 1950’s, both the underpinnings and full extent of the right remain unclear. The Supreme Court has largely left unanswered — and the lower courts and commentators have yet to agree — whether academic freedom is a mere institutional policy or whether it exists as a constitutional right, either independently or within the bounds of the First Amendment. Courts and commentators similarly disagree over whether such a right inheres in the professor or institution (or both) as well as whether it applies only at the post-secondary level, at varying degrees depending on the age and ability-level of the students, or equally at all levels from primary school through post-graduate education.

In a 1952 dissent, Justice Douglas was the first to recognize a right to academic freedom. He argued that a professor’s current or past political associations, combined with students’ near-constant surveillance and the ease of losing one’s job, created an environment of fear, mistrust, and intellectual stag-

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40 Id. at 1-2.

41 Id. at 2.

42 See infra notes 45–49 and accompanying text.

43 See, e.g., Hetrick v. Martin, 480 F.2d 705, 709 (6th Cir. 1973) (noting the “amorphous” scope of academic freedom).

44 The AAUP’s goals and justifications for academic freedom relied heavily on the social value of such a right, not its constitutional basis. See generally AAUP 1915 Declaration, supra note 29; AAUP 1940 Statement, supra note 30.

Although not referencing “academic freedom” by name, Justice Frankfurter’s concurrence later that year wished to protect teachers’ “freedom of responsible inquiry . . . into the meaning of social and economic ideas” and argued that “the thing that [courts] must do to the uttermost possible limits is to guarantee those [university] men the freedom to think and to express themselves.” In 1957, a majority of the Court recognized the relevance of academic freedom in relation to an educator’s classroom and past political associations. Justice Frankfurter’s concurrence went even further. He recognized that the freedoms to reason and express oneself are “necessary conditions” for advancements in science and the arts, and that “four essential freedoms” should prevail in the American university: the freedom to decide who may be admitted, who may teach, and what and how the material should be taught.

In 1967, for the first time, a majority of the Court identified academic freedom as “a special concern of the First Amendment” by focusing on the related interests of free political association and unhampered debate. Despite that pronouncement, the Court’s ambiguous description of the right failed to clarify the extent of constitutional protections for academic freedom. Since that date, any “right” to academic freedom tends to be narrowly construed. Commentators and lower courts have generally limited the right to classroom content and methodology and have otherwise held educators to the same First Amendment standards as non-academic public employees.

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46 Id.
47 Wieman v. Updegraff, 344 U.S. 183, 196, 198 (1952) (Frankfurter, J., concurring).
49 Id. at 263 (Frankfurter, J., concurring).
51 In addition to academic freedom, the Court highlighted the constitutionally protected nature of free speech, press, and assembly as part of our political discourse. Id. at 602–03.
52 See, e.g., Brown v. Armenti, 247 F.3d 69, 74 (3d Cir. 2001) (stating that the power to set grading procedures belonged to the university because that right is subsumed within the university’s, not the professor’s, freedom to determine how a course will be taught); Urofsky v. Gilmore 216 F.3d 401, 410, 415 (4th Cir. 2000) (holding that “[n]othing in Supreme Court jurisprudence suggests that the ‘right’ [of academic freedom] extends any further” than the right of all public employees to not be dismissed for exercising their First Amendment rights, and that any constitutional protection of “academic freedom” beyond the general public’s First Amendment rights would apply only to the university, not individual professors); Neal H. Hutchens, Silence at the Schoolhouse Gate: The Diminishing First Amendment Rights of Public School Employees, 97 Ky. L.J. 37, 59–60 (2008–09); Frederick Schauer, Is There a Right to Academic Freedom?, 77 U. COLO. L.R. 907, 909–12 (2006) (explaining that courts generally interpret academic and non-academic public employees’ rights equally and without independent regard for academic freedom concerns, however decisions regarding “classroom content and methodology” appear to grant a heightened and independent right not available to non-academic public employees). But see Pirowski v. Illinois Comm. Coll. Dist. 515, 759 F.2d 625, 629 (7th Cir. 1985) (interpreting “academic freedom” to be a First Amendment concern and attributable to both institution and professor).
If a right to academic freedom exists independently of or related to the First Amendment, it also remains unclear how it should be applied in different educational levels. Although one of Justice Frankfurter’s early concurrences noted the importance of academic freedom “from the primary grades to the university,” subsequent Supreme Court decisions have generally applied it only in the university context. Similarly, lower courts have relied on jurisprudence permitting greater state control over pre-college education and have consistently permitted greater restrictions on elementary and secondary teachers than would have otherwise been permitted at the post-secondary levels. While the extent and basis of any academic freedom right remains unclear, these decisions imply that any academic freedom right will be strongest at the university level, and even then may be subsumed by the university rather than the individual professor.

III. THE NEW WAVE OF ANTI-EVOLUTION LEGISLATION: CHRONOLOGY AND ELEMENTS OF SCIENCE-RELATED ACADEMIC FREEDOM BILLS

“Academic freedom” acquired a more particularized meaning in this decade. Since 2004, nearly thirty state bills have sought to promote “scientific critiques” of evolution under the guise of academic freedom. Generally, these

53 Wieman v. Updegraff, 344 U.S. 183, 196 (Frankfurter, J., concurring).
56 See, e.g., Asociación de Educación Privada de Puerto Rico, Inc. v. García-Padilla, 490 F.3d 1, 11 n.6 (1st Cir. 2007) (“There is no doubt of a state's heightened interest in regulating primary and secondary schools. ... As such, the right to academic freedom in secondary education is necessarily more circumscribed than that of a university.” (citations omitted)); Brown v. Li, 308 F.3d 939, 951 (9th Cir. 2002) (“To the extent that the Supreme Court has addressed the difference between a university's regulation of curricular speech and a primary or secondary school's regulation of curricular speech, it has implied that a university's control may be broader.”); Lacks v. Ferguson Reorganized Sch. Dist. R-2, 147 F.3d 718, 724 (8th Cir. 1998) (permitting school boards to restrict or prohibit classroom profanity); Silano v. Sag Harbor Union Free Sch. Dist. Bd. of Ed., 42 F.3d 719, 722–23 (2d Cir. 1994) (permitting “legitimate pedagogical concerns” — such as student’s age and maturity, the educational purpose, and the style and context of a presentation or activity — to justify restrictions on classroom activities, and finding that school officials and not courts are the proper forum for these decisions); Bishop v. Aronov, 926 F.2d 1066, 1075 (11th Cir. 1991) (noting “the invaluable role academic freedom plays in our public schools, particularly at the post-secondary level” (emphasis added)); see also Schauer, supra note 52, at 912 n.25.
bills explicitly promote supplementation of “controversial” science subjects, mandate that educational authorities facilitate such supplementation, insulate teachers from sanction or termination, and protect students from academic penalization based on their personal views of scientific theories. Although multitudes of state bills are considered and rejected every year, the growing number and success of these science-related academic freedom bills (“SAFBs”) — not to mention the significant public attention devoted to such measures — makes an analysis of the sources and implications of the bills’ language highly relevant.

The following two sections distill the SAFB legislation brewing at the state level. The first section considers the historical antecedents of such bills and outlines the chronology of this new brand of state-level academic freedom legislation. The second section will identify ten elements common to these bills and resolutions.

A. A Brief Timeline of Science-Centric Academic Freedom Proposals

The recent wave of science-related academic freedom legislation may not have occurred without a 2001 proposal by then-senator Rick Santorum (R-Pa.). With drafting assistance from Phillip E. Johnson, the “father” of the intelligent design movement and founding advisor of The Discovery Institute’s Center for Science and Culture, an intelligent design think tank, Santorum proposed a “Sense of the Senate” amendment to the 2001 No Child Left Behind Act. It stated:

(1) good science education should prepare students to distinguish the data or testable theories of science from philosophical or religious claims that are made in the name of science; and

(2) where biological evolution is taught, the curriculum should help students to understand why this subject generates so much continuing controversy, and should prepare the students to be informed participants in public discussions regarding the subject.

During debate over the amendment, Senator Santorum quoted Discovery Institute Senior Fellow David DeWolf, an “advocate[] of this thought.”

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59 Id.
60 Id.
He explained that his proposed amendment would benefit students by providing a more accurate and less “dogmatic” science education by “presenting this scientific controversy realistically,” showing how scientists use different methods of interpreting data, and helping students “address differences of opinion through reasoned discussion.” He also repeatedly described the bill as a matter of “intellectual freedom” and “open and fair,” “good scientific debate.”

Although passed in the senate by a 91–8 vote after very little debate, the final bill produced by the conference committee ultimately excluded the language. The only remainder of Santorum’s amendment exists in a modified form as part of the conference report’s explanatory text regarding the legislative history and purposes of the No Child Left Behind Act. Despite adamant opposition by more than 100,000 scientists and the officers of nearly 100 scientific and educational societies, the Conference Report contained the following provision modeled on the proposed Santorum Amendment:

The Conferrees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society.

Conference report language is not considered to be part of the enacted bill but can be relevant in assessing legislative history and congressional intent. Legally, the implications of this language are uncertain. Senator Ted Kennedy (D-Mass.), after originally endorsing the facial intent of the Santorum Amendment during floor debate, swiftly defended the Conference Report’s explanatory text.

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61 Id.
62 Id. In his brief statement, Senator Santorum characterized the bill five times as a measure protecting “freedom” or “intellectual freedom.”
63 Id. at S6153 (statement of Senator Kennedy (D-Mass.) concerning Amend. No. 799, Better Education for Students and Teachers Act).
64 CONF. REP. No. 107-334, at 703.
67 See 147 CONG. REC. S6150 (daily ed. June 13, 2001) (statement of Senator Santorum (R-Pa.) concerning Amend. 799 to the No Child Left Behind Act of 2001) [hereinafter Statement of Senator Santorum] (“We want children to be able to speak and examine various scientific theories
ry text as promoting only “critical[] analysis of genuine scientific theories” and explicitly stating that “‘intelligent design’ is not a genuine scientific theory and, therefore, has no place in the curriculum of our nation’s public school science classes.” Conversely, Senator Santorum argued that the conference report’s text “made explicit Congress’s rejection of the idea that students only need to learn about the dominant scientific view of controversial topics.” Soon thereafter, the Discovery Institute hailed the conference report language as a great victory for the inclusion of intelligent design in public school science classrooms. Practically, this conference report language contained two assumptions found in most of the state SAFBs. The passage assumes, first, that certain areas of science, most notably evolution, evoke controversy and deserve special treatment. Second, the passage implores educators to teach “the full range of scientific views that exist,” a concept and phrase that is nearly ubiquitous in state SAFBs.

In February 2004, Alabama became the first state to consider an “academic freedom” bill targeting science education. Two similar bills introduced in the Alabama House and Senate would have provided public school teachers with “the affirmative right and freedom to present scientific, historical, theoretical, or evidentiary information pertaining to alternative theories or points of view on the subject of origins” and protected them from any administrative or

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68 Senator Ted Kennedy, Evolution is Designed for Science Classes, Letter to the Editor, WASH. TIMES, Mar. 21, 2001, at A18 (emphasis added).


70 See, e.g., Press Release, Bruce Chapman, Discovery Institute, Congress Gives Victory to Scientific Critics of Darwin (Dec. 21, 2001), available at http://www.lightonline.se/lol/h/debatt/evolution0203/ScientificCriticsofDarwin.pdf (“The education bill just passed by Congress calls for greater openness to the study of current controversies in science, notably including biological evolution.”); Press Release, John West, Congress Urges Teaching of Diverse Views on Evolution, But Darwinists Try to Deny It (Dec. 28, 2001); Bruce Chapman & David DeWolf, Why the Santorum Language Should Guide State Science Education Standards, DISCOVERY INST., at 3, available at www.discovery.org/articleFiles/PDFs/santorumLanguageShouldGuide.pdf. The authors argue that the conference report language has the “effect of law” and that the conference report . . . changes . . . actually strengthened support for what we at the Discovery Institute have called a “teach the controversy” approach . . . . The Santorum statement put Congress on record as affirming that state science assessments ought to ensure that students “understand the full range of scientific views that exist” and “why such topics may generate controversy.”

Id.
other penalties for teaching alternatives.\textsuperscript{71} Both bills would also have reaffirmed the explicit protection for students to hold “a particular position on origins, so long as he or she demonstrates acceptable understanding of course materials.”\textsuperscript{72} Although the house version died in committee, the senate version was unanimously passed and referred to the house, where the “alternative theories” language was replaced with language protecting only the presentation of “scientific information” on the “full range of scientific views.” The reworded bill passed the House Education Committee but ultimately died when the house adjourned without voting on the bill.\textsuperscript{73}

The year 2005 sparked a flurry of ultimately unsuccessful anti-evolution legislation as several state legislatures considered bills to promote science-related academic freedom,\textsuperscript{74} promote the teaching of intelligent design,\textsuperscript{75} mandate equal time for “scientific creationism”\textsuperscript{76} or “intelligent design”,\textsuperscript{77} require presentation of “factual scientific evidence supporting or inconsistent with evolution theory,”\textsuperscript{78} form panels to review evolutionary education,\textsuperscript{79} require state textbooks to present both evolutionary and intelligent design or creationist perspectives,\textsuperscript{80} require textbooks to include at least one chapter containing “a


\textsuperscript{76} See generally S.B. 2286, 2005 Leg., Reg. Sess. (Miss. 2005).


\textsuperscript{79} See S.B. 119, § 2, 116th Gen. Assem., Reg. Sess. (S.C. 2005). The bill would have specified the nineteen-member composition of the South Carolina Standards Committee and charged them with “(1) study[ing] science standards regarding the teaching of the origin of species; (2) determin[ing] whether there is a consensus on the definition of science; [and] (3) determin[ing] whether alternatives to evolution as the origin of species should be offered in schools.” Id.

\textsuperscript{80} H.B. 220, 2005 Leg., 79th Sess. (Tex. 2005). H.B. 220 would have required textbooks to be free of “errors of commission or omission related to viewpoint discrimination or special interest advocacy on major issues.” Id. In comments to the press, the bill’s sponsor explained that “there is no fact for evolution” and that the bill would permit the teaching of creationism. See R.A. Dyer, Expanded Board Role Proposed, FORT WORTH STAR-TELEGRAM, Apr. 23, 2005, at 1B.
critical analysis of origins," and alter the state science standards to require students to "critically evaluate" and "assess the validity" of evolution and global warming.

At the state school board level, Kansas attracted national attention when it held extensive hearings on evolution and intelligent design as part of its efforts to alter the state science standards to redefine "science" and require that educators challenge evolution in the classroom.

These battles spilled over into the federal judiciary as well. In Georgia, a federal district court in Selman v. Cobb County School District held that textbook stickers disclaiming evolution as "theory, not a fact" violated the Establishment Clause and the Georgia Constitution.

In Pennsylvania, Kitzmiller v. Dover Area School District held that intelligent design is a form of creationism, not science, and therefore requiring intelligent design to be taught as an alternative to evolution violated the Establishment Clause of the United States Constitution.

Academic freedom bills, specifically, also grew in prominence. Alabama legislators seized on the language of Edwards v. Aguillard as they pro-
posed three new SAFBs granting teachers the “affirmative right and freedom” to present “scientific critiques of prevailing scientific theories” whenever controversial. The bills additionally protected the teaching of “the full range of scientific views” and provided additional non-discrimination clauses for students and teachers. South Carolina became the second state to propose an SAFB that would have directed the state board of education to expose students to the “full range of scientific views” and their implications for society whenever “topics are taught that may generate controversy, such as biological evolution.” All four bills died in their respective committees.

The year 2006 saw an escalation in the number of broad anti-evolution efforts as well as the number of SAFBs. The anti-evolution efforts included proposed bills to ban textbooks with “false” information, bar educational authorities from prohibiting teachers from discussing intelligent design and other “flaws” in evolution, encourage school boards to revise their curricula to require students to “critically evaluate” evolution and other scientific theories, mandate teaching a “critical analysis” of evolution, or require supplementing evolution instruction with classes in creationism and/or intelligent design, and allow intelligent design instruction in non-science classes. Addi-

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88 See S.B. 909, § 2, 116th Gen. Assem., Reg. Sess. (S.C. 2005) (“Where topics are taught that may generate controversy, such as biological evolution, the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society.”).
90 S.B. 2247, § 1, 2005 Leg., Reg. Sess. (Miss. 2005). This bill was introduced in 2005, but survived into the 2006 calendar year.
92 See H.B. 1266, 93rd Gen. Assem., 2d Reg. Sess. (Mo. 2006). Although not couched in terms of “academic freedom,” the bill would have required a “substantive amount,” § 3(2)(b), of “critical analysis” of all information “taught representing current scientific thought such as theory, hypothesis, conjecture, speculation, extrapolation, estimation, unverified data, consensus of scientific opinion, and philosophical belief . . . .” Id. at § 3(2)(a). This analysis must include “anomalous verified empirical data, contrary verified empirical data, missing supporting data, inadequate mechanisms, insufficient resources, faulty logic, crucial assumptions, alternate logical explanations, lack of experimental results, conflicting experiments, or predictive failures . . . .” Id.
93 H.B. 2107, § 1, 50th Leg., 2d Sess. (Okla. 2006).
94 H.B. 953, § 1(ww), 2006 Leg., Reg. Sess. (Miss. 2006) (authorizing “the teaching of ‘creationism’ or ‘intelligent design’ in the public schools[,]” but requiring that “if the school’s curriculum requires the teaching of evolution, then the teaching of ‘creationism’ or ‘intelligent design’ shall be required”).
95 H.B. 1228, § 1, 421st Leg., Reg. Sess. (Md. 2006). The bill would explicitly prohibit the teaching or discussion of intelligent design in any science course, but would have permitted intelligent design instruction in any humanity or philosophy class.
tionally, Mississippi enacted an evolution-related provision barring any “local school board, school superintendent or school principal [from] prohibit[ing] a public school classroom teacher from discussing and answering questions from individual students on the origin of life.” 96

Science-related academic freedom bills also increased in popularity and success as four states debated seven pieces of legislation and one county ultimately enacted an academic freedom policy. Alabama considered identical house and senate SAFBs, this time including a section describing the requirements for “scientific” information. 97 Both bills would have protected “as scientific” viewpoints with “published empirical or observational support [that had not been] soundly refuted by empirical or observational science in published scientific debate,” and would not have restricted views based on their “metaphysical or religious implications” so long as they were “defensible from and justified by empirical science and observation of the natural world.” 98 Alabama’s bills also would have protected students’ right to hold any “particular position on any views.” 99 A single proposed SAFB in Maryland adopted very similar language, using the same description of “scientific” information and affording teachers and students the same rights and protections. 100 In Oklahoma, two different bills would have permitted teachers, at minimum, to present the “full range of scientific views” in relevant courses and would have protected teachers from discipline and discrimination for doing so. 102

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96 H.B. 214, § 3, 2005 Leg., Reg. Sess. (Miss. 2005). A similar provision was considered in the Mississippi Senate. See S.B. 2427, § 1, 2005 Leg., Reg. Sess. (Miss. 2005). If enacted, that bill would have provided even more explicit protection for intelligent design by prohibiting interference with teachers wishing to “discuss[ ] and answer[ ] questions on the issue of flaws or problems which may exist in Darwin’s theory of evolution and the existence of other theories of evolution, including but not limited to, the intelligent design explanation of the origin of life . . . .” Id.

97 H.B. 352, § 7, 2005 Leg., Reg. Sess. ( Ala. 2005); S.B. 240, § 7, 2005 Leg., Reg. Sess. ( Ala. 2005). The section limited the Act’s protections to scientific views having “empirical or observational support” and “not soundly refuted by empirical or observational science in published scientific debate,” yet without restriction based on “any metaphysical or religious implications of a view, so long as the views are defensible from and justified by empirical science and observation of the natural world.”


100 See generally H.B. 1531, 421st Leg., Reg. Sess. ( Md. 2006). As applied to topics “that may generate controversy, including biological or chemical origins,” the bill would have granted teachers the “affirmative right and freedom to present . . . the full range of scientific views”; insulated teachers from discrimination, termination, or other administrative sanctions; and prohibited teachers from penalizing students based on their “particular position[s] on any views.” Id.


102 H.B. 2107, § 3(B), 50th Leg., 2d Reg. Sess. (Okla. 2006); S.B. 1959, § 1(B), 50th Leg., 2d Reg. Sess. (Okla. 2006).
Despite its adoption at only the county level, the Ouachita Parish, Louisiana’s Academic Freedom Resolution and Policy served as a cornerstone for future bills in Louisiana and across the country. That policy, supported and at least partially written by the Louisiana Family Forum,\(^\text{103}\) was based in part on the Santorum Language of the No Child Left Behind Act and the “scientific critiques of prevailing scientific theories” tentatively permitted by Edwards v. Aguillard.\(^\text{104}\) The resolution began with a series of ten findings, including the recognition in Edwards v. Aguillard that teachers may present “scientific critiques of prevailing scientific theories,”\(^\text{105}\) the recognition in Freiler v. Tangipahoa Parish that a state has a legitimate purpose to advance critical thinking and freedom of belief without imposing orthodoxy,\(^\text{106}\) the modified Santorum Language in the No Child Left Behind Conference Report recognizing the need to “help students understand the full range of scientific views that exist” in evolution and other areas that generate controversy,\(^\text{107}\) and the Louisiana Science Framework’s emphasis on critical thinking and scientific analysis.\(^\text{108}\) Asserting that teachers “may be unsure” of how to teach controversial subjects such as “biological evolution, the chemical origins of life, global warming, and human cloning,”\(^\text{109}\) the resolution mandated that school districts “endeavor to create an environment . . . that encourages students to explore scientific questions, learn about scientific evidence, develop critical thinking skills, and respond appropriately to differences of opinion about controversial issues,”\(^\text{110}\) including assisting teachers in “find[ing] more effective ways to present the science curriculum” in areas of controversy.\(^\text{111}\) Finally, the policy permitted teachers “to help students understand, analyze, critique, and review in an objective manner the

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\(^{105}\) See Ouachita AFA Resolution, supra note 104, at ¶ 2.

\(^{106}\) See id. at ¶ 4.

\(^{107}\) See id. at ¶ 3 (citing 2001 Joint Explanatory Statement, supra note 104).

\(^{108}\) See id. at ¶ 6–9.


\(^{110}\) Id. at ¶ 2.

\(^{111}\) Id.
scientific strengths and weaknesses of existing scientific theories pertinent to the course being taught.”

In 2007, New Mexico was the sole state to consider an SAFB. Legislators introduced a pair of identical bills — H.B. 506 and S.B. 371 — that governed the “teaching of biological origins.” Both bills would have granted teachers “the right and freedom . . . to objectively inform students of scientific information relevant to the strengths and weaknesses of [biological origins]” and would have further protected them from any adverse consequence as a result of doing so. Such “scientific information” purported to not include religious writings, but permitted the teaching of information with religious implications. Both bills also would have “encourage[d] students to critically analyze scientific information,” and both would have insulated students from “penaliz[ation] in any way” because of a “particular position on biological origins.”

The pro-creationist academic freedom movement gained even more ground through issuance of the Discovery Institute’s “Model Academic Freedom Statute on Evolution.” The model bill asserts that educators have the “affirmative right and freedom to present scientific information pertaining to the full range of scientific views regarding biological and chemical evolution,” that educators are insulated from any employment-related discrimination based on their presentation of such materials, that students may not be penalized for their particular positions on scientific theories, and that the bill’s provisions are devoid of any religious purpose. Demonstrating that these academic freedom considerations are relevant only in one discrete area of education, the model bill applies only to the subject of “biological or chemical evolution.”

After a year where only one state considered an SAFB, 2008 was a watershed: six states considered nine academic freedom bills, two states approved SAFBs in at least one legislative chamber, and one state became the first to officially enact an SAFB.
Although continuing to lead the states in sheer volume, Alabama’s eighth SAFB made no textual or philosophical changes from its two 2006 predecessors. Once again, it granted teachers the “affirmative right and freedom” to present “scientific critiques of prevailing scientific theories” and “the full range of scientific views” for any subject that may generate controversy, particularly evolution. It also employed the same language to protect teachers and students. Michigan legislators introduced a pair of identical “Academic Freedom Laws” that protected teachers and students in “understand[ing], analyz[ing], critiqu[ing], and review[ing] in an objective manner the scientific strengths and scientific weaknesses of existing scientific theories” in areas of controversy, particularly biological and chemical evolution, human cloning, and “the human impact of climate change.” Both bills also mandated that educational authorities “endeavor to create” critical thinking environments and assist teachers in more effectively presenting such scientific critiques. In both Missouri and South Carolina, educational authorities would have been forbidden from prohibiting any teacher to present the “scientific strengths and weaknesses of theories of biological and chemical evolution” and were encouraged to create an environment conducive to such critical analysis.

Bills in Florida were more successful. In October of the previous year, a new evolutionary battle erupted when the Florida Department of Education proposed revisions to its heavily criticized state science standards to make them “world class.” In response to a proposed change that would have described evolution as “the fundamental concept underlying all biology,” over a

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123 Id.
127 Florida’s 1996 state science standards failed to even mention the word “evolution” and were condemned by experts as vague and shallow. Ron Matus, Evolution Joins Curriculum, St. Petersburg Times (Fla.), Feb. 20, 2008, at 1A, available at http://www.sptimes.com/2008/01/24/State/North_Florida_weighin.shtml. In 2005, the Thomas B. Fordham Institute gave them a failing grade, in part because the “E-word” was completely avoided and only vague generalities were offered on the subject of evolution and the life sciences. PAUL R. GROSS, THOMAS B. FORDHAM INSTITUTE, THE STATE OF STATE SCIENCE STANDARDS 34 (Dec. 2005), available at http://www.edexcellence.net/doc/Science%20Standards.FinalFinal.pdf. Ultimately, the standards’ reasonable organization could not save their “errors in fact and presentation” and “thin” and “nebulous” benchmarks. Id. Although Florida had already begun re-drafting its standards by 2005, the failing grade provided yet another incentive for their improvement.
128 See Matus, supra note 127.
129 See id.
dozen county school boards in northern Florida adopted nearly identical resolutions requesting that the state board of education present evolution “as one of several theories” or more explicitly arguing for inclusion of creationism or intelligent design. After significant criticism from scientific organizations and the public, as well as heated debate within the Board, the new standards’ heightened treatment of evolution passed by a 4–3 vote, but the board reworded the standards to qualify evolution as a “scientific theory.” The Florida legislature then got involved when it considered nearly-identical bills that would have explicitly endowed public school teachers with the “affirmative right and freedom to objectively present scientific information relevant to the full range of scientific views regarding biological and chemical evolution in connection with teaching any prescribed curriculum regarding chemical or biological origins” and would have protected them from being “disciplined, denied tenure, terminated, or otherwise discriminated against for objectively presenting scientific information relevant” to class discussions. The senate bill passed


131 Matus, supra note 127.

132 Many scientific and professional organizations — including the National Academy of Sciences, the National Center for Science Education, the American Institute for Biological Sciences, the Florida Academy of Sciences, and the Florida Citizens for Science — defended the proposed standards against any alteration by the Board. See id.

133 Opposing the new standards, the executive director of the Florida Baptist Convention, John Sullivan, urged the Board to “honor and encourage the academic freedom of teachers and students on an issue of fundamental importance and ongoing scientific controversy.” James A. Smith, Sr., Rubio: Florida House Open to Legislative Fix on Evolution, Fla. Baptist Witness, Feb. 21, 2008. The Florida Family Policy Council, one of the groups sorely disappointed with the approval of the new state science standards, complained that the new standards would “do absolutely nothing to inform students about the flaws with evolution,” Matus, supra note 127, and promised to advocate “academic freedom” bills to counter the teaching of evolution. See Nat’l Ctr. for Sci. Educ., The E-Word Arrives in Florida, Feb. 18, 2008, http://ncse.com/news/the-e-word-arrives-in-florida.

134 Advocating adoption of the standards without any change, board member Roberto Martinez stressed the standards’ scientific support and complained that the board would be “watering down the best possible standards we could have to appease a certain segment of the community.” Matus, supra note 127. Florida House Speaker Marco Rubio (R-District 111) agreed, framing the issue as a matter of academic freedom and, ultimately, the “fundamental core of who is ultimately, primarily responsible for the upbringing of children.” Smith, supra note 133. According to Rubio, the “crux” of the battle is “whether what a parent teaches their children at home should be mocked and derided and undone at the public school level.” Id.

135 See Matus, supra note 127. Board member Donna Callaway had proposed an “academic freedom” amendment to the standards to counter their “dogmatic” treatment of evolution, but her proposal failed to receive any support. Marc Caputo, Education: Schools to Teach Evolution “Theory,” Miami Herald, Feb. 20, 2008.

the Judiciary Committee and, after some minor modifications in the Education Pre-K–12 Committee, the full senate. In the house, the originally-identical H.B. 1483 was substantially modified to provide a “thorough presentation and critical analysis of the scientific theory of evolution” after it received greater questioning of its possible allowance of the teaching of biblical creationism. Ultimately, both bills died because the senate and house could not agree on a compromise bill.

Arkansas may lead the pack in sheer number of academic freedom bills, but only Louisiana has succeeded in enacting one into law. As exemplified by the Louisiana “Balanced Treatment” Act held unconstitutional by Edwards v. Aguillard, Louisiana has long had a prickly relationship with evolutionary education. Although Louisiana did not introduce or debate an SAFB until 2008, the formula it pursued built on several previous attempts in the past decade to limit or undermine evolutionary instruction.

Before Ouachita Parish adopted its “academic freedom” policy in 2006, Louisiana had considered at least five bills relating to Darwin and evolution. Three would have prohibited state employees from printing or distributing “illegal, false, or fraudulent” materials. As a precursor to a textbook dis-

The bill passed the Senate Judiciary by a 7–3 vote. Linda Kleindienst, Panel OKs Evolution Alternatives, ORLANDO SENTINEL, Apr. 9, 2008, at B5.


Steve Patterson, Schools Evolution Proposal Could Die, FLA. TIMES-UNION (Jacksonville), May 1, 2008, at B1.


See Patterson, supra note 139.

See Kaczor, supra note 140. After the Senate passed S.B. 2692 and sent it to the house on April 23, 2008, the house responded by substituting the language of H.B. 1483 — a bill that had already been tabled — and returning the bill to the Senate; the Senate restored the original text and sent it back to the house, where it subsequently died. See Nat’l Ctr. for Sci. Educ., supra note 130.


See supra notes 103-12 and accompanying text.

See supra notes 103-12 and accompanying text.
claim,146 a proposed House concurrent resolution concluded a broad condemnation of racism with an explicit and Governor-described &quot;weird&quot;147 denunciation of the &quot;Darwinist ideology that certain races and classes of humans are inherently superior to others.&quot;148 Finally, Representative Ben Nevers introduced a house resolution &quot;encouraging the development of students’ critical thinking skills&quot; by recommending public schools refrain from purchasing textbooks that do not present a balanced view of the various theories relative to the origin of life but rather refer to one theory as proven fact.&quot;149 None of these bills ultimately passed either chamber with the language herein stated.150

Building on public sentiment against evolution, the growing number of state academic freedom bills, and the success of the Ouachita AFA Policy, 2008 sparked a new era of success for SAFBs. Again prompted by the Louisiana Family Forum151 and employing language almost identical to that of the Ouachita AFA Policy, Louisiana’s Senate Bill 561 nonetheless went further by forbidding &quot;any principal or administrator [from] prohibit[ing] any teacher . . . from helping students understand, analyze, critique, and review in an objective manner the scientific strengths and weaknesses of existing scientific theories pertinent to the course being taught&quot;152 and from &quot;censor[ing] or suppress[ing] in any way any writing, document, record, or other content of any material which references&quot; controversial scientific subjects; again, biological evolution, chemical origins of life, global warming, and human cloning were the only four areas...
specifically mentioned.\textsuperscript{153} The bill also attempted to limit Establishment Clause controversies by protecting only “the teaching of scientific information,” without the goal of “promot[ing] any religious doctrine, . . . discrimination for or against a particular set of religious beliefs, or . . . discrimination for or against religion or non-religion.”\textsuperscript{154} Exactly one month later, the former assistant superintendent of Ouachita Parish introduced an identical bill in the Louisiana House of Representatives.\textsuperscript{155} On April 22, 2008, the senate re-crafted the bill to remove references to specific areas of controversy and instead call for general improvements in science education.\textsuperscript{156} Correspondingly, it was renamed the “Louisiana Science Education Act,” renumbered, and unanimously passed on April 28, 2008.\textsuperscript{157} The identical house bill was passed on June 11, 2008 by a vote of 94–3, and Republican Governor Bobby Jindal signed it into law on June 25, 2008.\textsuperscript{158}

In the first seventy-five days of 2009, six states considered bills that would protect educators’ “academic freedom” to teach scientific critiques of evolution. Alabama introduced a bill identical to its bills from 2006 and 2008, once again granting teachers the “affirmative right and freedom” to present “scientific critiques of prevailing scientific theories” and “the full range of scientific views” for evolution and any other subject that may generate controversy.\textsuperscript{159} It also employed the same teacher- and student-protective clauses.\textsuperscript{160} Missouri’s proposed bill would have required school authorities to enhance the “critical thinking” environment and would have protected teachers in presenting “in an objective manner the scientific strengths and scientific weaknesses of the theory of biological and hypotheses of chemical evolution.”\textsuperscript{161} The bill also contained a clause denying, inter alia, the promotion of religious or intelligent

\begin{thebibliography}{9}
\bibitem{155} See Barbara Leader, Hoffmann Introduces His Own Academic Freedom Bill, NEWS-STAR (Monroe, La.), Apr. 23, 2008, at 3B.
\bibitem{156} Will Sentell, Evolution Talk Cut from Bill, ADVOCATE, Apr. 20, 2008.
\bibitem{160} See generally id.
\end{thebibliography}
design ideas, but did not explicitly protect teachers from termination or discipline nor protect students’ beliefs from penalization. Oklahoma significantly expanded the language and scope of its new bill, but built on the same principles commonly found in other SAFBs: a focus on critical thinking, teacher and student uncertainty concerning expectations, school administrator requirements to assist teachers and create critical thinking environments, teacher immunity for presenting the “scientific strengths and scientific weakness of existing scientific theories,” student evaluative protection for personal positions on scientific theories, and a religious non-discrimination clause. New Mexico’s proposed SAFB provided teacher protection and immunity for presenting “relevant scientific information regarding . . . the scientific strengths or scientific weaknesses pertaining to biological evolution or chemical evolution.” It also disclaimed religious intent, defined “scientific information,” and protected students’ opinions on evolution against penalization. Iowa’s first proposed SAFB noted teachers’ fear and uncertainty regarding their authority to “objectively present scientific information relevant to the full range of scientific views regarding chemical and biological evolution.” The bill explicitly denied religious intent, defined the range of “scientific information,” and granted teachers the “affirmative right and freedom” to present such information in evolutionary education. It furthermore purported to shield students’ beliefs on evolution from penalization and insulate teachers from termination or other discrimination for presenting alternate viewpoints. Finally, Texas’s first proposed SAFB would have implored students to assess theories’ strengths and weaknesses and critique “scientific explanations,” barred student penalization based on his or her “particular position[s]” on scientific theories, and forbid any governmental entity from prohibiting teachers to help students “understand, analyze, review, and critique scientific . . . theories.” All six bills died in committee.

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162 “This section only protects the teaching of scientific information and this section shall not be construed to promote philosophical naturalism or biblical theology, promote natural cause or intelligent cause, promote undirected change or purposeful design, promote atheistic or theistic belief, promote discrimination for or against a particular set of religious beliefs or ideas, or promote discrimination for or against religion or nonreligion. Scientific information includes physical evidence and logical inferences based upon evidence.” Id. at § 170.335(3).


165 S.B. 433, § I(A), 49th Leg., 1st Sess. (N.M. 2009).

166 See generally id.


168 Id.

169 Id.

B. Science-Centric “Academic Freedom” Bills: Common Characteristics and Interpretive Analysis

As outlined above, numerous states have considered or enacted legislation relating to the study of evolution. Included in this larger number is a subset of bills this Note classifies as science-centric academic freedom bills, or SAFBs. But what are those specifications? How can an SAFB be distinguished from another bill merely granting broader rights to all teachers and students (a basic academic freedom bill), or from a bill merely supporting in-class disclaimers of evolution (a basic anti-evolution bill)?

Although the provisions in each bill may vary, the similarities far outweigh the differences. The following sections first provide a comparative analysis of state legislation by outlining ten elements common (if not universal) to state SAFBs. These essentially consist of two subcategories. First, they include elements and considerations such as similar titles, specific areas of “controversy,” teacher uncertainty regarding expectations, stress on “critical thinking,” focus on the “scientific critiques” or “scientific strengths and scientific weaknesses” of evolution, and religious disclaimers. Second, they include protections and corresponding mandates, primarily teachers’ “affirmative right and freedom” to teach alternative views on evolution, the obligation of school authorities to facilitate this instruction, and protection against academic penalization for students’ evolutionary beliefs. Each section below will, if possible, explore the source of the legislative language, analyze the misunderstandings and implications of each element, and explain its relationship with historical principles of academic freedom.

It must be noted, however, that these categories are inexact. Many ubiquitous phrases — such as “topics that may generate controversy,” “the scientific strengths and scientific weaknesses” of evolution, “full range of scientific views,” “affirmative right and freedom,” “understand, analyze, critique, and review,” “create an environment,” and “assist and facilitate teachers” — can only be analyzed in the broader context of their elements, protections, or mandates. Additionally, because of the expansive implications of certain elements and phrases, it is in some cases impossible to analyze just one element in complete isolation. Nonetheless, the ten categories outlined below provide a useful further analysis.

1. Title

“Academic freedom bills, . . . while supposedly promoting intellectual analysis, [are] actually an attempt to pave the way for misinformation to enter the scientific classroom.”

With few exceptions, state SAFBs explicitly state their purposes in the title. Most are short-titled, simply, an “Academic Freedom Act.” A few more include the state’s name, specify the groups to whom the act applies, or explicitly link the concept of academic freedom to science education. The title alone is far from definitive, however, because some evolution- or intelligent design-related bills make no reference to academic freedom, and some general academic freedom bills grant broad protections to teachers and students without any focus on evolution, intelligent design, or areas of controversy. Therefore, although the title may be indicative of the broader context of the bill, the title alone will rarely be definitive in classifying it as an SAFB.

2. Religious Disclaimer and/or Definition of “Scientific”

“While anybody is free to approach a scientific inquiry in any fashion they choose, they cannot properly describe the methodology used as scientific if they start with a conclusion and refuse to change it regardless of the evidence developed during the course of the investigation.”

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172 See, e.g., S.B. 433, 49th Leg., 1st Sess. (N.M. 2009) (leaving the act untitled, but describing itself as “an act . . . requiring public schools to allow teachers to teach all relevant scientific information when teaching theories of biological origins”).


Recognizing that Supreme Court jurisprudence has invalidated state laws prohibiting teaching evolution or requiring “equal time” for creationism, state SAFBs have consistently disclaimed any religious motivation. Since 2004, only one science- or evolution-centric SAFB has omitted this element. Although Alabama’s 2004 SAFB provided more extensive recognitions of Supreme Court precedent and legislative purpose, bills from 2005 onward have near-uniformly asserted that their provisions “shall [not] be construed [as promoting] any religious doctrine, promot[ing] discrimination for or against a particular set of religious beliefs, or promot[ing] discrimination for or against religion or non-religion.” This language also tracks the language in the Discovery Institute’s Model Statute.

Additionally, ten states went beyond a mere disclaimer to explicitly provide that the information be “scientific.” Proposed legislation in Louisiana, Epperson v. Arkansas, 393 U.S. 97 (1968).


H.B. 391, § 1(b)(7), 2004 Leg., Reg. Sess. (Ala. 2004). This subsection noted, first, the various restrictions imposed by the First Amendment. Second, the legislature noted the possible religious implications of certain views, but specifically disclaimed any intent to “authorize, require, or permit the teaching of any religion or religious principle or tenet” and asserted its purpose, instead, to permit students “to have made available to them all information necessary for proper learning and critical thinking.” Id.


Model Academic Freedom Statute, supra note 117 (“Nothing in this act shall be construed as promoting any religious doctrine, promoting discrimination for or against a particular set of religious beliefs, or promoting discrimination for or against religion or non-religion.”).
Maryland, Michigan, Missouri, New Mexico, Oklahoma, and Texas noted that the expansive protections of the bill applied only to the teaching of "scientific information," a category explained by SAFBs in Alabama and Maryland as one requiring "published empirical or observational support [which has not been] soundly refuted by empirical or observational science in published scientific debate," but which is nonetheless unrestricted "by any metaphysical or religious implications of a view, so long as the views are defensible from and justified by empirical science and observation of the natural world." New Mexico’s three SAFBs used a broader approach, defining "scientific information" instead as "information derived from observation, experimentation and analyses regarding various aspects of the natural world," although they expressly disclaimed information "derived from religious or philosophical writings, beliefs, or doctrines," they imposed no limitation on the "religious or philosophical implications" of otherwise naturalistic studies. Iowa provided one of the broadest definitions, limiting itself only to "germane, current facts, data, and peer-reviewed research specific to the topic of chemical and biological evolution as prescribed in the state’s core curriculum for science." Oklahoma’s 2009 SAFB explicitly disclaimed any religious intent and enhanced its purported non-religious foundations by claiming its purpose was only "to create an environment in which both the teacher and students can openly and objectively discuss the facts and observations of science and the assumptions that underlie their interpretation."

Although lengthy treatises could be (and have been) written concerning whether there are critiques of evolution that are not also religious, the correlation between the two cannot be ignored. The most prominent "critiques" are published by advocates of intelligent design, a belief system that presupposes a supernatural designer. The leading intelligent design organizations are committed to overturning the current naturalistic constraints of science and replacing them with models permitting the consideration of theistic or supernatural forces,

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190 S.B. 320, § 1(F), 52d Leg., 1st Reg. Sess. (Okla. 2009).

even if those models also permit astrology to become classified as a “science.”\textsuperscript{192} Even when intelligent design and other “critiques” carefully circumscribe any overt religious or theistic inference, a federal district court recently noted that “anyone familiar with Western religious thought would immediately make the association that the tactically unnamed designer is God.”\textsuperscript{193}

Because advocates of intelligent design wish to redefine science to include non-naturalistic, theistic models,\textsuperscript{194} vague statutory parameters of “science” will only lead to confusion and litigation. Internal legislative analysis of New Mexico’s 2009 SAFB explicitly noted that the bill’s definition of “scientific information” was broad enough to permit instruction in intelligent design and creationism.\textsuperscript{195} Casey Luskin, attorney for the intelligent design think tank the Discovery Institute, similarly believes that Florida’s SAFB and other similar bills would protect the teaching of intelligent design in science classes.\textsuperscript{196} According to him, the scientific community’s vehement disagreement with SAFBs’ definition of “science” is “ironic” because, according to scientists, intelligent design could never qualify as a science and correspondingly could never be taught in science classes.\textsuperscript{197} Yet in a roundabout way this highlights the problem: what the broad scientific community considers valid science will inevitably clash with what proponents of intelligent design, creationism, and other evolutionary critiques define as “science.” Should a parent complain or sue over the inclusion of inadequately “scientific” information, a judge or arbitrator must ultimately decide whether the supplemented informa-

\footnotesize
\textsuperscript{192}See id.
\textsuperscript{193}See id. at 718.
\textsuperscript{194}See \textsc{Discovery Inst., The Wedge: Center for the Renewal of Science and Culture} 4, available at http://www.antievolution.org/features/wedge.pdf (last visited Jan. 24, 2010) (listing the Discovery Institute’s governing goals as “defeat[ing] scientific materialism and its destructive moral, cultural, and political legacies” and “replac[ing] materialistic explanations with the theistic understanding that nature and human beings are created by God” (emphasis added)). See also \textsc{Kitzmiller, 400 F. Supp. 2d at 720–21} (extensively discussing witness testimony and published materials that link intelligent design with religion, require scientific “ground rules” to be broadened to include supernatural forces, and admit that this new interpretation of “science” would necessarily include, inter alia, astrology).
\textsuperscript{197}Id.
tion satisfies the statutory definition, i.e., *whether intelligent design* (or any other criticism of evolution) *is science.*

3. Specific Scientific Issues Generating “Controversy”

“That evolution is the central organizing principle of all the historical sciences is not a controversial issue among scientists, or among most educated people. Consequently, science teaching worldwide treats evolution as routine. The United States is the exception.”

Unlike broader academic freedom bills designed to promote freeranging research, protect teachers and professors from inappropriate administrative reprisals, and shield students from inappropriate grade reductions based on their political, ethical, moral, or religious beliefs, science-related academic freedom bills must single out particular areas of controversy to which their language applies. In the majority of states, biological evolution, chemical evolution, or “origins” is explicitly singled out for special treatment. In the others, the li-

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198 Notably, this is roughly the factual situation that led to the *Kitzmiller v. Dover Independent School District* case. 400 F. Supp. 2d 707 (M.D. Pa. 2005). After extensive fact-finding and testimony, the court held that mandated inclusion of intelligent design in biology classes violated the First Amendment. Amongst numerous other findings, the court also found intelligent design to be “a religious view, a mere re-labeling of creationism, and not a scientific theory.” *Id.* at 726.


Limitations of the academic freedom bill apply only to areas that “may generate controversy,” generally enumerated as biological evolution, the chemical origins of life, global warming, and human cloning.\(^{201}\)

At present, a large percentage of the American public expresses skepticism about the validity of modern evolutionary theory. Recent polls have indicated that nearly half of Americans believe God created humans in their present form within the last 10,000 years,\(^{202}\) nearly half believe that evolution is not the best explanation for the origins of human life,\(^{203}\) one-third believe evolution is “absolutely false,”\(^{204}\) and approximately three-fourths would have no objection to teaching creationism or intelligent design in schools.\(^{205}\) About three-fourths...
of Americans also believe that its description as “the theory of evolution” means that the idea has not been scientifically proven.\textsuperscript{206}

These misunderstandings are in part caused by our nation’s marginalization of evolutionary education. A 2005 national survey of state science standards by the Thomas B. Fordham Institute awarded fifteen failing grades based either on a complete lack of standards or because standards were “so vague and weak as to be meaningless;”\textsuperscript{207} evolutionary education, in particular, earned ten marginal and thirteen failing grades.\textsuperscript{208} Many state science standards completely avoid the term “evolution” in favor of the intelligent design catchphrase “change over time”; others ignore evolution altogether.\textsuperscript{209} Despite governing standards and evolution’s centrality to the study of biology, half of high school biology teachers spend less than five days on evolution, with many describing evolution as “briefly mentioned” or completely “avoid[ed]”\textsuperscript{210} and forty-three percent of high school biology teachers denying that evolution is a unifying theme in biology.\textsuperscript{211} Furthermore, multiple “on the ground” studies have demonstrated that fifteen to thirty percent of public school biology teachers teach creationism.\textsuperscript{212}

In contrast, scientists have vehemently defended evolution against attacks by the less scientifically-literate public. Although scientists continue to debate the nature, rate, and degree of applicability of various evolutionary mechanisms, there is no credible scientific debate concerning the validity of evolution as a whole.\textsuperscript{213} Over the last several decades, evolution has been described

\begin{footnotesize}
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\item Gross, supra note 127.
\item Id. at 7.
\item Id. at xi, 9, 11, 16.
\item Lisa A. Donnelly & William J. Boone, Biology Teachers’ Attitudes Toward and Use of Indiana’s Evolution Standards, 44 J. Res. Sci. Teaching 236, 237 (2007). In three of the five states studied, approximately one-quarter to one-half of the teachers admitted evolution was only “briefly mentioned” or completely “avoid[ed].” Id.
\item Randy Trani, I Won’t Teach Evolution; It’s Against My Religion, 66 Am. Biology Tchr. 419, 419 (Aug. 2004).
\item Randy Moore, Creationism in the Biology Classroom: What Do Teachers Teach & How Do They Teach It?, 70 Am. Biology Tchr. 79 (references omitted).
\item See, e.g., Nat’l Acad. of Sci., Science and Creationism 2 (1999) (“[T]heories are the endpoints of science. They are understandings that develop from extensive observation, experiment, and creative reflection. They incorporate a large body of scientific facts, laws, tested hypotheses, and logical inferences. In this sense, evolution is one of the strongest and most useful scientific theories we have.”); Nat’l Acad. of Sci., Teaching About Evolution and the Nature of Science 4 (1998) (“[T]here is no debate within the scientific community over whether evolution occurred, and there is no evidence that evolution has not occurred. Some of the details of how evolution occurs are still being investigated. But scientists continue to debate only the particular mechanism that result in evolution, not the overall accuracy of evolution as the explanation of life’s history.”). Although several advocates of creationism and intelligent design — most
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by eminent researchers and major scientific organizations as “the single most pervasive theme in biology, the unifying theme of the entire science;”\(^{214}\) as “the central organizing principle that biologists use to understand the world;”\(^{215}\) as “one of the most important concepts in attaining scientific literacy;”\(^{216}\) and as “indispensable to the study of biology, just as the atomic theory is indispensable to the study of chemistry.”\(^ {217}\) Evolutionary education has also been defended by the National Academy of Sciences, American Association for the Advancement of Science, American Institute of Biological Sciences, National Science Teachers Association, National Association of Biology Teachers, National Center for Science Education, and a long list of other national and local educational and scientific organizations.\(^ {218}\)

To date, no proposed SAFB requires that the “controversy” be ongoing within the applicable field of science. Although many bills purportedly limit their scope to scientific and non-religious criticisms of evolution, such sources seem questionable when the scientific community repeatedly denies having any such criticisms. A 2009 legislative analysis of New Mexico’s proposed SAFB “point[ed] out that ‘biological origins’ is not a widely accepted scientific term, but rather a way of saying evolution without using that word.”\(^ {219}\) Additionally, “academic freedom” is not granted to other matters often generating controversy. Legislature and media reports show that one attempted application of such broad “academic freedom” principles to another politically controversial school subject — comprehensive sexual education — was swiftly defeated.\(^ {220}\) Without restricting the scope of controversy to areas of legitimate scientific disagree-

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\(^{214}\) Futyma, supra note 213, at 5.


\(^{217}\) Id. at 104.


ment, it is likely that social, political, or religious controversies will fulfill the “issue in controversy” requirement.

Clearly, critical thinking is the line separating automatons from the truly visionary. Explorers, inventors, and even talented appellate advocates know the value of challenging one’s “gut reaction.” Whether assessing the truthfulness of a historical account, combing through treatises on evolution, or preparing for trial, it is undoubtedly important to skeptically weigh the evidence. What many SAFB sponsors (as well as many educators and parents) want, however, is to argue that the entire mechanism of evolution is an assumption. Of course, such individuals are unlikely to question the bias or veracity of supplemental materials “critiquing” evolution, nor are they likely to question their own religious, philosophical, or other personal predispositions. As will be discussed infra, channeling anti-evolutionary materials through the cover of “critical thinking” is academically dishonest and ultimately detrimental to students.

4. “Critical Thinking” and Challenging Scientific “Assumptions”

“We may find Newton’s second law of motion contrary to common sense because it links acceleration, rather than velocity, to applied force. But we cannot change this fact; what we can do is learn how to manipulate it... The public school has no authority to impose opinions on its students, but it has the duty to explain to them the consensus of scientists on any particular issue, and the methodology by which scientists proceed to discover new knowledge and merge it into that consensus.”

In 2008 and 2009, ten of sixteen proposed SAFBs have included language promoting the “critical thinking” students need to become informed citizens. The phrasing proposed in four states recently explained that “an impor-

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221 Lerner, supra note 199, at 290.
tant purpose of science education is to inform students about scientific evidence and to help students develop critical thinking skills they need in order to become intelligent, productive, and scientifically informed citizens. Oklahoma’s proposed bill would have gone further, urging students to “openly and objectively discuss the facts and observations of science, and the assumptions that underlie their interpretation.” An additional (but earlier) proposal in South Carolina implicitly endorsed critical thinking by describing a “quality science education” as one that “prepare[s] students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science.”

All of these directives mirror the Santorum Language and corresponding floor debate. South Carolina’s 2005 SAFB is taken verbatim from the first point of the 2001 Santorum Amendment. The language in the four states linking critical thinking skills with the need to “become intelligent, productive, and scientifically informed citizens” likely derives either from Santorum’s second point, which expressed the need for “students to be informed participants in public discussions regarding the [scientifically controversial] subject,” or from Senator Kennedy’s comment on the floor that children need to be able to “examine various scientific theories on the basis of all of the information that is available to them so they can talk about different concepts and do it intelligently with the best information that is before them.” Finally, Oklahoma’s recently proposed bill encouraging students to challenge “assumptions” of scientific...
“facts and observations” likely has its roots in the comments of Senator Brownback who stated that “it is impossible to observe macro-evolution [because] it is scientific assumption” and that “the debate of scientific fact versus scientific assumption is an important debate to embrace.”

5. “Scientific Strengths and Scientific Weaknesses” and “Scientific Critiques of Prevailing Scientific Theories”

“It is not that these dissenters are wrong, because wrong answers can sometimes stimulate controversy that helps lead to correct answers. Rather, as the physicist Wolfgang Pauli liked to say, they are ‘not even wrong.’ That is, their arguments are useless and even detrimental to the pursuit of further knowledge.”

Nearly all SAFBs permit some type of critique or alternative viewpoint on specified scientific subjects. This concept dates back to at least 2004 when Alabama proposed the first two SAFBs. Both of Alabama’s 2004 SAFBs granted the broadest degree of discretion to the public educator by permitting any “scientific, historical, theoretical, or evidentiary information pertaining to alternative theories or points of view on the subject of biological or physical origins in any course of learning.” Although facially limited only to “origins” discussions, the expansive nature of permitted “alternative” information — and its inclusion in “any course,” not just the sciences — is unmatched by any other proposed SAFB.

The vast majority of SAFBs include identical language either mandating that teachers be allowed to present “scientific critiques” or, alternatively

230 Lerner, supra note 199, at 290.
phrased, the “scientific strengths and scientific weaknesses”234 of prevailing scientific theories. The former idea — that educators may present scientific critiques of prevailing scientific theories — is taken verbatim from the Supreme Court’s decision in *Edwards v. Aguillard*.235 By 2008, proposed legislation largely mandated teaching the “scientific strengths and scientific weaknesses” of prevailing scientific theories.236 Of the twelve states to introduce sixteen SAFBs in 2008 and 2009, only Florida omitted any reference to “scientific critiques” or “strengths and weaknesses,”237 and only Alabama continued to include the *Edwards*-inspired language mandating that teachers be allowed to present

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235 482 U.S. 578, 593 (1987) (striking down Louisiana’s “Creationism Act” as unconstitutional, but disclaiming the implication “that a legislature could never require that scientific critiques of prevailing scientific theories be taught”).


“scientific critiques of prevailing scientific theories.” All the remaining states utilized the “scientific strengths and scientific weaknesses” language.

The facial neutrality of the text belies its intended effect. Students should undoubtedly learn what a scientific theory is, how an original hypothesis may eventually be elevated to the level of scientific theory, how science’s use of the term “theory” differs from the word’s use in popular culture, what types and degrees of evidence support various scientific theories, how prolonged testing may falsify an earlier hypothesis and replace it with another, what aspects of scientific theories are currently being tested and refined, and why some alternative explanations have been refuted. In short, students should learn how science operates and what answers science gives us about the natural world.

But what scientific strengths and weaknesses are schools meant to teach regarding evolution? Most bills provide little clear guidance in determining what is and is not legally “scientific.” In Florida, one of only two states to pass SAFBs in both legislative chambers in the same year, both proposed bills required the information to be germane and current facts, data, and peer-reviewed research relating to evolution, a category bill analysts defined as requiring only relevant and objectively presented material. Although the bills’ sponsors repeatedly refused to explain whether intelligent design (or other, more explicit, religious beliefs) would qualify as part of the “critical analysis” and “full range of scientific views,” the Discovery Institute’s Casey Luskin was less coy: in his opinion, intelligent design would qualify as valid, teachable “scientific in-

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240 See Aaron Deslatte, “Evolving” Academic Freedom Bill Clears the House, ORLANDO SENTINEL, Apr. 28, 2008, at n.p. (House bill opponents “tried several times Monday to pin [the bill’s sponsor] down on whether teachers would be shielded from disciplinary action if they tried to teach full-blown religious beliefs[,]”); James A. Smith Sr., Senate Debates Evolution Academic Freedom Bill, FLA. BAPTIST WITNESS, Apr. 17, 2008, at n.p. (The house bill’s sponsor initially denied that the bill would authorize teaching creationism or intelligent design, but when questioned by opponents she refused to respond except to quote directly from the bill’s text.).
As explained supra, even bills with statutory definitions of “scientific information” fail to provide adequate guidance.

Furthermore, this provision grants educators unprecedented ability to undermine a core academic concept through the use of supplemental, contradictory materials. Primary and secondary school teachers rarely produce independent, debated, published works in their chosen subjects; instead, teachers must rely on the research and textbooks of scholars in the field. As one legislative analyst stated, “K–12 science educators are not working scientists, so they seldom gather empirical data to challenge robust theories. Instead, they teach the theories that research scientists find useful to help explain the natural world.” To allow educators to teach critiques of evolution, particularly in a field so prone to personal and religious objection, teaches students more about their teachers’ ideas than about the dominant concept of an entire field. Instead, it allows teachers to use “critical” materials without any assessment of their underlying truth or validity. Permitting teachers to use their personal beliefs and preferences to trump well over a century of scientific scholarship is not only academically and socially dishonest, it is at the expense of adolescents who deserve a rigorous scientific training.

Finally, mandated criticism of one of the most paramount, unifying, and overwhelmingly endorsed theories in modern science provides a poor vehicle for scientific education. If students are to adequately understand the scientific process that gave rise to DNA sequencing, antiviral medications, and space travel, students should instead focus on why some hypotheses are considered and discarded while other topics, even if controversial at the time, rise to mass acceptance. Students should simultaneously learn that overarching concepts may be well-understood despite ongoing evaluation of their finer points. In the evolutionary context, students could be exposed to Lamarckism, the idea that physical characteristics acquired by parents would be passed along to the next generation, and how repeated lab tests, Darwinian evolution, and Mendelian genetics coalesced to ultimately disprove the concept. In order to expose students to the weaknesses and strengths of evolutionary theory, students might also be taught how scientists continue to research and debate certain evolutionary mechanisms, whereas other areas of the theory have achieved a broad scientific consensus.

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243 See supra Part III.B.0.


Without question, science could not function or progress without critically analyzing data. History’s most notable scientists challenged unsubstated common assumptions to prove that the earth is round (not flat) and that amino acids (not proteins) are the building blocks of genetic information. Based on only a facial analysis of this language, few scientists would object to students thinking critically and developing the bedrock skepticism necessary for scientific inquiry.

When read in context, however, these seemingly innocuous phrases take on a less utopian meaning. First, most state science standards already promote student critical thinking in the sciences, so the relevance and impact of SAFBs is questionable. Teacher associations, school boards, and various model curricula all highlight the need for critical thinking in all areas of education, including science. The problem with this SAFB language is that the need for critical thinking in areas of “controversy” downplays the need for it in other academic areas. Simultaneously, the language of “critical thinking” encourages doubt at an early stage of evolutionary introduction and heightens suspicion of the validity of modern science. Students arrive at the first day of evolutionary classes armed with a lifetime of religious and pop culture interpretations of “evolution” but with very little scientific understanding. To clothe religious, political, or social criticism of the topic in the garb of scientific doubt — when scientists overwhelmingly endorse evolution’s basic validity — misrepresents current scientific understanding to suit one’s own ends and simultaneously deprives adolescents of a quality education.

6. Teacher Uncertainty Regarding Educational Expectations and Sanctions

“I am now more worried about the chilling effect of creationism on teachers than I am about explicit bans.”

“The chief danger to evolution education comes . . . from teachers just quietly ceasing to teach evolution because it is too controversial.”

The majority of state SAFBs assert the need to protect teachers who are currently unprotected by law and are “uncertain” of acceptable topics and

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246 See, e.g., GROSS, supra note 127, at 14.
247 Donald Kennedy, Helping Schools to Teach Evolution, CHRONICLE HIGHER EDUC., Aug. 7, 1998, at A48 (Donald Kennedy is President Emeritus of Stanford University.).
248 Eugenie C. Scott, Antievolution and Creationism in the United States, ANN. REV. OF ANTHROPOLOGY 26, 285 (1997). Eugenie C. Scott is the Executive Director of the National Center for Science Education.
249 H.B. 300, § 2, 2009 Leg., Reg. Sess. (Ala. 2009) (“[E]xisting law does not expressly protect the right of teachers identified by the United States Supreme Court in Edwards v. Aguillard to
In 2008 and 2009, three proposed SAFBs in Iowa and Florida included more detailed findings, noting that “in many instances educators have experienced or feared discipline, discrimination, or other adverse consequences as a result of presenting the full range of scientific views regarding chemical and biological evolution.” Additionally, seven SAFBs in Louisiana, Michigan, Oklahoma, and South Carolina expressed nearly-identical concern that “some teachers may be uncertain of administrative expectations concerning the presentation of material on these scientific topics.”


These assertions seem to be, at best, dubiously supported. During floor debate over the Florida Senate's 2008 academic freedom bill, the bill's sponsor stated: "People are afraid. Teachers are afraid. And students, by the way, are afraid." Yet a report by the Florida Senate Education Pre-K–12 Committee state that "the [Florida] Department of Education [has records of no] case in Florida where a public school teacher or public school student has claimed that they have been discriminated against based on their science teaching or science course work."

Nonetheless, a bill improving teacher and administrator certainty could be a beneficial improvement over existing standards. Because teachers of all subjects could supply journal articles, news stories, educational films, and other sources not individually approved by the state or local school board, a policy clearly defining baseline standards or supervisor-approval policies could be helpful. Such a policy could provide useful benchmarks to help educators promote diverse and up-to-date viewpoints while avoiding endorsements of religion. Unfortunately, as will be explained infra, state SAFBs provide vague and often-problematic parameters on what materials may be incorporated into class and what disciplinary procedures may be used should a teacher use inappropriate materials. Contrary to their stated purposes, proposed SAFBs merely increase uncertainty regarding the appropriate course scope, supplemental materials, grading criteria, and teacher-student and teacher-administrator relationships.

7. "Affirmative Right and Freedom" to Teach the "Full Range of Scientific Views"

"Evolution by natural selection is a fact — a well-established, thoroughly documented, experimentally tested, observationally confirmed, real fact."
Since 2004, seventeen bills in six states have ascribed to teachers “the affirmative right and freedom to present scientific information pertaining to the full range of scientific views,” either in any course or, occasionally, in classes dealing with science or “origins.”

Since 2005, Florida, New Mexico, and Oklahoma are the only three states to narrow the teacher’s “affirmative right and freedom” to subjects relating to science or evolution. Florida’s 2008 SAFBs narrowed this right by limiting their application only to areas of “chemical or biological origins” (i.e., evolution), yet this mitigation is counterbalanced by a more dubious intent. Florida’s revised science standards already permitted teachers to “actively consider alternative scientific explanations to explain the data present.” The Florida legislative analysis noted that “the need to elevate such explanations to a ‘right’ clearly intends to raise teacher discretion over curriculum above that of the State Board of Education or the district school board.” Oklahoma omitted the “affirmative right and freedom” language, yet it limited expansive teacher authori-

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257 See H.B. 1483, § 3, 2008 Leg., Reg. Sess. (Fla. 2008) (granting public K–12 teachers “the affirmative right and freedom to objectively present scientific information relevant to the full range of scientific views regarding biological or chemical evolution in connection with teaching any prescribed curriculum regarding chemical or biological origins”); S.B. 2692, § 2, 2008 Leg., Reg. Sess. (Fla. 2008) (same); S.B. 336, § 2, 2004 Leg., Reg. Sess. (Ala. 2004) (granting teachers “the affirmative right and freedom to present scientific, historical, theoretical, or evidentiary information pertaining to alternative theories or points of view on the subject of biological or physical origins in any curricula or course of learning”); see also H.B. 506, § 1(A)(1), 48th Leg., 1st Sess. (N.M. 2007) (granting teachers “the right and freedom, when a theory of biological origins is taught, to objectively inform students of scientific information relevant to the strengths and weaknesses of the theory”); S.B. 371, § 1(A)(1), 48th Leg., 1st Sess. (N.M. 2007) (same); S.B. 1959, § 1(A), 50th Leg., 2d Reg. Sess. (Okla. 2006) (teachers may present information “pertaining to the full range of scientific views in any course”).


259 FLA. HOUSE OF REPRESENTATIVES STAFF ANALYSIS ON H.B. 1483, at 4 n.12 (Apr. 9, 2008). Even material presented contrary to the state’s curricular standards would be protected by this broad “right.” Id. at n.13.
zation by applying only to “any science course.” This language presents two primary problems: vagueness and irrelevancy. First, the bill does not define what sort of information may be presented so long as it contributes to the “full range of scientific views.” It does not, for example, specify that the supplemental information must be consistent with state- or district-approved curricula or science standards, nor does it specify that it must be consistent with materials published in respected, peer-reviewed journals. It does not specify that the information or discussion be relevant to the current course module, nor limit the amount of time a teacher may spend on supplemental, rather than prescribed, materials. Second, a fair reading of this provision would not substantially alter teachers’ abilities to discuss relevant information and materials. Teachers have never been prohibited from including news clippings, scholarship, films, or other materials relevant to the course and unit. Teachers have likewise been permitted to address legitimate scientific controversies such as the degree and rate of various evolutionary mechanisms and the degree of acceptance of physics’ string theory. Furthermore, students were already expected to “formulate and evaluate explanations proposed by examining and comparing evidence, pointing out statements that go beyond evidence, and suggesting alternative explanations,” ostensibly with assistance from their teachers. Much like Florida’s proposed legislation, Oklahoma’s proposed SAFB would not provide a right to any teacher that did not already exist unless the language was interpreted to permit presentation and discussion of pseudoscientific information.

The reach of this new “affirmative right and freedom” remains unclear. To date, no bill specifies what persons or entities must decide whether supplemental material is sufficiently scientific and is presented objectively, nor do any bills provide rubrics to guide these decisions. Objectivity is itself a concern because the entire evolution-intelligent design controversy swirls around public conceptions of fairness and equal time. It also raises deeper questions such as the prerequisite amount of substantiating evidence, the necessary degree of acceptance within a field, and the proper balance between scientific “truth” and sociopolitical and religious “truth.” In light of these tensions, any discussion of politically sensitive issues may be considered biased. Undoubtedly, most intelligent design supporters will find public school instruction in only evolution—or evidence against intelligent design—to be nonobjective, and scientists will find the promotion of intelligent design in science classes to be scientifically unsupported and academically dishonest. If objectivity is not in the eye of the beholder but in the perception of the teacher, it is uncertain what bounds school administrators might be able to place on this newly-granted right. Despite an oft-cited objective to increase certainty, this provision merely increases teacher

262 See HOUSE JUDICIARY COMM. BILL ANALYSIS OF S.B. 2692, supra note 254, at 4.
and administrator confusion regarding what may be taught and what administrative or disciplinary measures may be taken in response.

8. Administrators Must “Create an Environment” and “Assist and Facilitate Teachers”

“[T]he effort to provide protection for academically unsound theories is an Orwellian rhetorical maneuver, whose logic falls apart upon reasoned analysis.”

Of the sixteen SAFBs introduced in ten states from 2008 until present, nine SAFBs explicitly mandated that schools and administrators create and foster critical thinking environments in “controversial” areas and, to that end, that they assist teachers in more effectively presenting this information. Generally, the phrasing is identical: these entities are directed to “endeavor to create an environment . . . that encourages students to explore scientific questions, learn about scientific evidence, develop critical thinking skills, and respond appropriately and respectfully to differences of opinion about controversial issues.”

These same nine SAFBs also implemented a second directive requiring that the applicable educational authorities assist and support teachers in providing and discussing materials that critique controversial areas of science. Seven of these bills used identical language requiring that school authorities “shall [] endeavor to assist teachers to find more effective ways to present the science curriculum [where it addresses] scientific controversies.” The remaining two


264 In 2008 and 2009, ten states have proposed (or enacted) academic freedom bills: Alabama, Florida, Iowa, Louisiana, Michigan, Missouri, New Mexico, Oklahoma, South Carolina, and Texas. Nine SAFBs in Louisiana, Michigan, Missouri, Oklahoma, and South Carolina contained some type of administrative mandate.


266 See H.B. 656, § 170.335(1), 95th Gen. Assem., 1st Reg. Sess. (Mo. 2009); S.B. 320, § 1(C), 52d Leg., 1st Reg. Sess. (Okla. 2009); H.B. 1168, § 2118(B), 2008 Leg., Reg. Sess. (La. 2008);
bills required that educators “must be supported,” or more concretely that educational authorities “shall allow and assist... [by providing] support and guidance.”

Prior to 2008, no proposed SAFB included these obligations. Additionally, neither the specific phrasing nor the broader concepts were publicly promoted by the Discovery Institute. Instead, this phrasing is based on the Ouachita Parish, Louisiana science policy adopted in late 2006. That policy states that the school district “shall endeavor to create an environment to [critically evaluate and discuss] controversial issues [and] shall also endeavor to assist teachers to find more effective ways to present the science curriculum where it addresses scientific controversies.”

Although many aspects of these SAFBs mischaracterize, or at best reinterpret, the concept of academic freedom to apply to limited areas of public education, affirmative mandates that schools and administrators assist teachers in presenting these alternative views mark a vast departure from the individualistic, policy-driven academic freedom protections initially ascribed to universities. Read in conjunction with a teacher’s “affirmative right and freedom” to present alternative scientific ideas, this provision seems to greatly reduce, if not eliminate, the school administrators’ authority to regulate science classrooms. By granting expansive protections to teachers while greatly reducing the supervisory authority of administrators, these bills seem to undercut the very idea of localized control by vesting nearly unilateral control in the hands of the individual teacher. By tilting the decision-making balance in favor of teachers and against administrators and school boards, these SAFBs undermine, and even imperil, the minimum requirements dictated by state science standards.


S.B. 1386, § 1(D), 117th Gen. Assem., Reg. Sess. (S.C. 2008) (“Public school educators must be supported in finding effective ways to present controversial science curriculum and must be permitted to help students understand, analyze, critique, and review the scientific strengths and weaknesses of theories of biological and chemical evolution in an objective manner.”).

H.B. 1168, § 285.1 (B)(1)–(2), 2008 Leg., Reg. Sess. (La. 2008) (“Educational authorities “shall allow and assist teachers, principals, and other school administrators... [by providing] support and guidance for teachers regarding effective ways to help students understand, analyze, critique, and objectively review scientific theories being studied, including [evolution, the origins of life, global warming, and human cloning].”).

See, e.g., http://www.discovery.org/scripts/viewDB/, “Body of the Article,” search for either “Ouachita,” “endeavor to create,” “create an environment,” “endeavor to assist,” or “more effective ways.”

Ouachita AFA Policy, supra note 109, at ¶ 2. Although the language in discussed in this section is original to the Ouachita Parish Policy, the overall language and structure of the policy itself was adapted from a proposed policy published by retired Judge Darrell White of Louisiana. See Judge Darrell White, Proposed School Board Policy: Science Education, http://www.judgewhite.com/docs/proposedresolution.pdf.
9. Non-Interference with Teachers and/or a Bar on Administrative Sanctions

“In high school, you’re teaching mainstream science so students can go to college or medical schools, where you need that freedom to explore cutting-edge ideas. To apply “academic freedom” to high school studies is a misuse of the term.”

Since 2004, only one SAFB has declined to explicitly protect teachers from administrative interference or discipline based on the content and manner of their classroom instruction; even so, that bill implied similar protections by stating that “teachers must be supported in finding effective ways to present controversial science curricul[a].” In 2008 and 2009, fifteen SAFBs in nine states expressly prohibited educational authorities from interfering with teachers’ supplementation and discussion of controversial scientific areas. Despite separate mandates that the schools “create a [critical thinking] environment” and “assist teachers” in more effectively presenting these concepts and materials, these nine SAFBs also included specific requirements that school authorities not impede teachers’ presentation and discussion. These prohibitions were phrased either that “teachers shall [or must] be permitted,” schools “shall allow,” or that schools “shall [or may] not prohibit” teachers from objectively analyzing,

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271 Amanda Gefter, New Legal Threat to Teaching Evolution in the U.S., NEW SCIENTIST, July 9, 2008 (quoting Josh Rosenau of the National Center for Science Education).

See supra Part III.B.0.
critiquing, and reviewing the scientific strengths and weaknesses of applicable scientific theories. Although not contained in the enacted version of the SAFB, two of Louisiana’s proposed SAFBs contained the most explicit provisions limiting educational authorities’ abilities to oversee and control the curricula. These two matching bills would have absolutely prohibited the “censor[ship] or suppress[ion]” of “any writing, document, record, or other content” on the subjects of biological evolution, the chemical origins of life, global warming, and human cloning by any administrator, teacher, or overseeing body.\textsuperscript{278}

As a correlate to non-interference, nearly every state has also proposed to bar sanctions against teachers who present supplemental and critical views of pertinent scientific theories.\textsuperscript{279} The first SAFBs to propose such language were introduced in Alabama in 2004; it stated that no teacher “shall be terminated, disciplined, denied tenure, or otherwise discriminated against for presenting scientific, historical, theoretical, or evidentiary information pertaining to alternative theories or points of view on the subject of [origins].”\textsuperscript{280} Since then, states have borrowed the language of Alabama’s SAFB and the Discovery Institute’s Model Academic Freedom Statute on Evolution (“Discovery Model Statute”). The Discovery Model Statute specifically prohibits any public school teacher from being “terminated, disciplined, denied tenure, or otherwise discriminated against for presenting scientific information [relevant] to the full range of scientific views.”\textsuperscript{281} As of January 1, 2010, this or nearly-identical language has been promoted in eighteen SAFBs in six states.\textsuperscript{282} Interestingly, in 2008, the

\textsuperscript{278} See H.B. 1168, § 2118(D), 2008 Leg., Reg. Sess. (La. 2008) (“Neither the state Department of Education nor any public elementary or secondary school governing authority, superintendent of schools, or school system administrator, nor any public elementary or secondary school principal or administrator or teacher, in the course and scope of his duties in such capacity, shall censor or suppress in anyway any writing, document, record, or other content of any material which references topics [of biological evolution, the chemical origins of life, global warming, or human cloning.]”); S.B. 561, § 2118(D), 2008 Leg., Reg. Sess. (La. 2008) (same).

\textsuperscript{279} As of January 1, 2010, states introducing such bills include Alabama (8), Florida (2), Maryland (1), and Oklahoma (2).


\textsuperscript{281} Model Academic Freedom Statute, \textit{supra} note 117.

only two states to not expressly prohibit educational authorities from interfering with teachers’ presentation and discussion of “alternative” scientific ideas were also the only two to expressly insulate teachers from any sort of adverse punishment or discrimination based on those same materials.\textsuperscript{283}

In combination, the broad rights given to teachers, mandates imposed on school authorities, and prohibition of administrative interference or punishment illustrate a remarkable shift in the conceptualization of academic freedom. Many of these bills permit teachers to choose their own supplementary materials and lecture on alternative viewpoints without any fear of punishment or retaliation; meanwhile, school administrators are mandated to facilitate this instruction or are proscribed from interfering with it. These clashing rights and responsibilities “insulate[] teachers from being held accountable for their speech” while simultaneously providing “accountability without autonomy” to the principals who remain responsible for their school’s performance but now lack the necessary managerial authority.\textsuperscript{284}

10. Students’ Beliefs on Theories May Not Be Penalized

“[B]iology teachers cannot afford to maintain scientific neutrality regarding the exploration of evolutionary theory to avoid potential confrontations with students’ religious (or other) beliefs. This neutrality forces students to compartmentalize a powerful way of knowing instead of integrating it with other ways.”\textsuperscript{285}

To date, seven states have proposed clauses that would allow or require student evaluation based on a teacher’s supplemental materials but would prohibit a student’s academic penalization based on his or her scientific “position.”\textsuperscript{286}


Most of these provisions extend from the recognition that students’ rights of scientific belief are not explicitly protected by law.\textsuperscript{287} In 2004, Alabama became the first state to consider this enhanced protection when an SAFB provided that “no student . . . shall be penalized in any way because he or she may subscribe to a particular position on biological or physical origins, so long as he or she demonstrates acceptable understanding of course materials.”\textsuperscript{288} By the next year, Alabama’s SAFBs included the “may be evaluated” language\textsuperscript{289} contained in the Discovery Model Statute which states that “[s]tudents may be evaluated based upon their understanding of course materials, but no student . . . shall be penalized in any way because he or she may subscribe to a particular position on any views regarding biological or chemical evolution.”\textsuperscript{290} In 2006, Oklahoma used even broader language when protecting students’ “particular position[s] on scientific theories,”\textsuperscript{291} and Maryland mandated that students be tested on their understanding of all—including supplemental—course materials.\textsuperscript{292} Since 2008, Alabama, Florida, New Mexico, and Oklahoma have largely used the same language to permit evaluation based on additional materials and prohibit penalization based on a student’s views of bio-


\textsuperscript{290} Model Academic Freedom Statute, supra note 117, at § 4.

\textsuperscript{291} H.B. 2107, § 3(C), 50th Leg., 2d Reg. Sess. (Okla. 2006).

\textsuperscript{292} H.B. 1531, § 6-115(D), 421st Leg., Reg. Sess. (Md. 2006) (“A teacher (1) shall evaluate a student on the basis of the student’s understanding of course materials; and (2) may not penalize a student in any way because the student may subscribe to a particular position on any views.”)(emphasis added)).
logical or chemical evolution,\textsuperscript{293} “particular position on scientific views,”\textsuperscript{294} or “particular position on any views.”\textsuperscript{295}

The recognition of students’ rights of belief, even when in opposition to established educational standards, has far deeper roots in historical academic freedom than the expansive and almost complete power vested in teachers. Nonetheless, in this context the protection raises both constitutional and administrative concerns. The first claim, that students’ rights of belief is not explicitly protected by law, is likely true, but irrelevant. Under traditional and well-established First Amendment jurisprudence, an individual’s right of belief is absolute.\textsuperscript{296} The state could neither constitutionally enact nor enforce a law or policy regulating personal beliefs. Such an explicit protection of belief might please the electorate, but in actuality it identifies a non-existent problem. An individual’s right to action based on those beliefs, however, is not coextensive with a right of belief,\textsuperscript{297} and because of the unique nature of a public school, administrators may legitimately regulate some student conduct and speech in excess of the degree to which they could regulate adults.\textsuperscript{298} If “may not be penalized in any way” is construed to permit student rights in excess of the First Amendment, it is possible that the SAFBs might diminish the ability of schools to manage and control their students as well as to require conformity with the state’s prescribed science standards.\textsuperscript{299}

Secondly, the broad permission, or even mandate, to evaluate students based on non-approved supplemental materials raises significant problems of administrative control and scientific consistency. Because these materials need not be pre-approved by the principal or any oversight board, and because these materials may conflict with the textbook, state science standards, and state assessment tests, students may be evaluated based on inconsistent and contradictory information.\textsuperscript{300} Furthermore, none of the SAFBs explain whether all students

\textsuperscript{293} See H.B. 1483, § 1(5), 2008 Leg., Reg. Sess. (Fla. 2008) (“Public school students . . . may be evaluated based upon their understanding of course materials, but may not be penalized in any way because he or she subscribes to a particular position or view regarding biological or chemical evolution.”); S.B. 2692, § 1(5), 2008 Leg., Reg. Sess. (Fla. 2008) (same); see also S.B. 433, § 1(C), 49th Leg., 1st Sess. (N.M. 2009) (teachers “may not penalize a student in any way because that student subscribes to a particular position on biological evolution or chemical evolution”).

\textsuperscript{294} S.B. 320, § 1(E), 52d Leg., 1st Reg. Sess. (Okla. 2009).


\textsuperscript{296} See, e.g., Cantwell v. Connecticut, 310 U.S. 296, 303–04 (“[T]he [First] Amendment embraces two concepts — freedom to believe and freedom to act. The first is absolute, but, in the nature of things, the second cannot be. Conduct remains subject to regulation for the protection of society.”).

\textsuperscript{297} See id.


\textsuperscript{299} See April 7, 2008 BILL ANALYSIS AND FISCAL IMPACT STATEMENT OF S.B. 2692, supra note 254, at 5, 8.

\textsuperscript{300} See FLA. HOUSE OF REPRESENTATIVES STAFF ANALYSIS ON H.B. 1483, supra note 259, at 4.
will be evaluated in reference to the totality of course materials or whether grading must be personalized to each student. For example, if a student cited religion as his reason for refusing to learn about or answer test questions regarding the existence and mechanisms of evolution, it is unclear whether an SAFB would protect his position or whether he could receive a failing grade for refusing to comply with standard course assessments. Similarly, if the daughter of a prominent evolutionary biologist contested the quality and accuracy of her teacher’s supplemental materials on intelligent design or other evolutionary “critiques,” it is unclear whether her grade would be decreased based on her perceived misunderstanding of the course materials or if she, too, would be insulated from receiving a diminished grade because her beliefs and the supplemental materials are in conflict. Ultimately, this clause provides a confusing and ambiguous standard for school authorities to implement and protect while creating a wholly new protection under the umbrella of academic freedom.

IV. CONCLUSION

Seizing on the language of the proposed Santorum Amendment, resulting Santorum Language, and jurisprudential deference to objectively presented “scientific critiques of prevailing scientific theories” outlined in Edwards v. Aguillard,301 various state legislators have sought to expand the rights of teachers to criticize evolution. By invoking “academic freedom,” bill-drafters can disclaim any religious or anti-evolutionary intent while framing the issue over evolutionary education in terms of “open-mindedness” and “fairness.”

Hardwired into the American consciousness is the general assumption that any “story” always has two sides, and all sides deserve an equal opportunity to be heard. In an academic setting, this further presupposes that both sides have sufficient supporting facts to be afforded this equal weight. In all areas of scholarship, the research and peer-reviewed publications processes provide ample opportunities for dissenting voices to be heard. Within the evolutionary academic arena, critics of evolution have yet to make their case. In the boiled-down environment of public, pre-college education where students are under pressure to learn the necessities for standardized tests, college, and “the real world,” teachers lack the time and resources to adequately deal with every opposing viewpoint. Instead, teachers must focus on the overall body of knowledge relevant to each subject. That education provides the foundation for in-depth analysis at the college and graduate levels. Moreover, public school educators are rarely researchers in their fields and are less likely to know what areas are still being debated and what areas have attained an overwhelming consensus of support. Entrusting such discretion broad curricular discretion to legislators, particularly when paired with teachers’ and students’ insulation from penalization, poses significant educational risks.

As a whole, state SAFBs grant unprecedented rights to our nation’s high school teachers. The early American concept of academic freedom was based in social and academic policy, not state or federal law; it adhered to the university and the university professor, not high school teachers and adolescents; it protected probing classroom discussions, professorial scholarship, and publishing, not the ability of a non-researcher to introduce any material she or he likes; and it was awarded subject to fiduciary duties to produce honest and rigorous research, not severed from any duties except general standards of behavior prescribed by law and educational policy.302

That is not to say that legislatures cannot grant additional rights beyond historical understanding and federal court jurisprudence; barring any Establishment Clause of other constitutional concerns, they certainly may. Nonetheless, ascribing “academic freedom” principles to anti-evolutionary measures misconstrues historical and jurisprudential understandings to serve political, not educational, ends. These state SAFBs drastically depart from historical understanding and, when coupled with subsequent teacher protections, substantially insulate teachers from accountability and other fiduciary obligations historically entrusted to the university professor. After a year devoted to celebrating biological and sociological evolution, perhaps it is time to reexamine the prudence of expansive, legislative measures that reinterpret academic freedom principles to suit new, political ends.

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302 See supra Part II.A.

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