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RE: Revision of Arizona Science Standards

I am writing on behalf of the Secular Communities of Arizona (SCA) regarding a potential constitutional violation in the revision and adoption of the new science standards. SCA is a statewide non-profit organization whose purpose is to protect the constitutional principle of separation between church and state.

#### FACTS

In September 2016 the Arizona Department of Education (ADE) began a revision process of the Arizona Science Standards. Public feedback was collected from October to December of 2016. During 2017, the ADE convened working groups of educators, content experts, community members, and parents to draft those revised standards. In December 2017 to spring of 2018, the ADE did an internal review. The drafts that had been prepared by the working groups that included content experts and teachers were changed in one significant area – to minimize the teaching of evolution.

When the drafts were put back out for public comment, many people who had been on the working groups complained about the changes as did many people from the general public. Opposition was particularly strong from experts such as biology teacher Lacey Wieser, who had served 14 years in the Department of Education, most recently as director of science and STEM, who resigned in protest when she was ordered, as she believed from the superintendent's office, to make the changes.

The draft is still out for comment until May 28. It is anticipated the revised standards will be presented to the State Board of Public Education for adoption in the fall of 2018.

Howard Fischer from the Capital Media Services reported in the Arizona Capital Times on May 21, 2018 that State Superintendent of Schools, Diane Douglas is trying to downplay and/or remove entirely references to evolution in the standards. According to

Fischer, she's proposing to eliminate requirements that students be able to evaluate how inherited traits in a population can lead to evolution. Instead she would replace "evolution" with "biological diversity" which is not the same thing. She wants to repeal language that would help students to understand how adaptations contribute to biological evolution; rather she would talk about how populations change over time – again not the same.

Where the word "evolution" remains in the standards, she insists it be referred to as a theory – which it is, just like gravity and relativity.

To indicate that this is really part of a bigger plot, Douglas would also remove discussion of the Big Bang theory and the scale of the universe and replace it with other theories. These actions are the canary in the coal mine.

While Douglas says she is not attempting to replace evolution with "intelligent design," she was recorded at a Republican event in November 2017 saying that the theory of "intelligent design" should be taught in our schools. While Douglas claims that is her personal view, she was the State Superintendent of Education at the time, and she admitted that she discussed with her staff to be sure to include "intelligent design" in the standards according to Fischer. She admitted to Fischer that her wording allows teachers to provide students with alternate theories of how life on earth got to where it is and that perhaps one day "intelligent design" will be proven to be true. True or not, it still won't be science.

Theories about the beginning of life are not evolution but there are many of such theories ranging from shocking start, lightning spark, molecules meet on clay, deep sea vents, ice protection, RNA, metabolize first, panspermia (cosmozoic or sporebroth), special creation (God), spontaneous generation (abiogenesis or autogenesis), eternity, and catastrophism. Numerous creation myths also abound including 16 labeled as "Creation from Chaos" including 2 Christian; 4 "Earth Diver" including Cherokee; 4 "Emerging" including Zuni, Hopi and Navajo; 8 "Out of Nothing" including Maori; 8 "World Parent" including Greek; and one "Divine Twins" from Indo-European sources. Regionally there are 10 creation stories from Africa; 16 from the Americas (3 from Meso-America, 9 from North America and 4 from South America); 19 from Asia (2 from Central Asia, 9 from East Asia and 8 from India); 5 from Europe; 7 from the Mid-East including Genesis, Islamic, Persian, Sumerian and Leviathan; and 5 from the Pacific Islands including one from Hawaii. Does she intend to include study of all of these "alternate theories?" Since Arizona is home to the Hopi and Navajo reservations, she should at least include those.

As reported in the Arizona Republic on May 22 by Lauren Castle, the word "evolution" is repeatedly crossed out in the ADE internal revisions. One of the ADE changes is the use of the word "believed" in the description of core ideas. As many commentators on the standards pointed out, the term "believed" is not a scientific term. Belief is a religious term. Science is not based on "belief" but on observation and experimental data.

Douglas tried to minimize her actions by arguing that the words “creationism” or “intelligent design” are not to be found in the revisions. Since Courts have found that teaching either “creationism” or “intelligent design” is unconstitutional, of course the actual words would not be used. But her denial does not resolve the problem as we shall see.

## LEGAL STANDARDS

After the famous Scopes Monkey Trial in 1925 in Tennessee, the next case to come to the Supreme Court was *Epperson v. Arkansas*, 33 U.S. 97, 89 S. Ct. 266, 21 L. Ed, 2d 228, (1968). Following an upsurge of fundamentalist religious fervor in the 1920s, Arkansas had adopted a statute in 1928 to prohibit the teaching of the theory that man evolved from other species of life. In spite of that, in 1968 the Little Rock school system adopted a textbook that required the teaching of evolution and that man evolved from lower animals.

Epperson was a science teacher and faced censure from the school for not teaching the textbook or a crime from the state for doing so. She sought a declaration that the statute was void. Though no prosecutions had occurred in 40 years, the state Attorney General said they would prosecute her just for saying there was such a theory. The statute in *Epperson* was found unconstitutional and the textbook adopted.

Because of the fact that constitutional freedoms are nowhere more vital than in the American schools, the courts must be vigilant in protecting them. It does not matter what specific words are used – the intent and effect is more important than the words. The court looks at various behaviors to determine intent. The underlying point is that classrooms cannot be used to spread a certain religious orthodoxy tailored to the principles or prohibitions of any religious sect or dogma. The vital question is the motivation for the law. The motivation is clear in this case – Douglas believes we should be teaching “intelligent design.”

Arkansas tried again in 1982. The Governor of Arkansas signed into law the "Balanced Treatment for Creation-Science and Evolution-Science Act." A number of bishops, ministers, and clergy sued along with parents, teachers, and Jewish and Science associations. (*McLean v. Arkansas Board of Education*, 529 F. Supp 1255, (D.C E.D. Ark. 1982)

Again the court stated firmly that as the public school is the most powerful agency for promoting cohesion among a heterogeneous democratic people, they must scrupulously keep free from religious entanglements. The court discussed the need for every law or government action to have a secular purpose, no advancement of religion and no excessive entanglement with religion.

The perpetrators in *McLean* tried very hard to conceal the connection to religion, as Douglas is doing here, but the court was not fooled. In the *McLean* case, the bill was passed without public input. Here, ADE made the changes in their offices counter to the

drafts of the experts, teachers and public. Moreover, in *McLean*, as Douglas has done, the main author of the bill had made public statements about the true purpose. The religious intent was clear. The court was not fooled.

In the *McLean* case, a science teacher was given the job of producing the science curriculum. When she and a committee of science teachers concluded that “creationism” was not science and so informed the Board, they were ignored and a different curriculum was produced as was done here. After an extensive trial, the court found that the curriculum the Board approved was not science and not teachable. As here, the court found that students would be ill-served by the curriculum and suffer in further education endeavors.

While Douglas objects to the use of the word “evolution,” the court said:

Yet it is clearly established in the case law, and perhaps also in common sense, that evolution is not a religion and that teaching evolution does not violate the Establishment Clause, *Epperson v. Arkansas*, supra; *Willoughby v. Stever*, No. 15574-75 (D.D.C. May 18, 1973); aff'd. 504 F.2d 271 (D.C.Cir.1974), cert. denied, 420 U.S. 927, 95 S.Ct. 1124, 43 L.Ed.2d 397 (1975); *Wright v. Houston Indep. School Dist.*, 366 F.Supp. 1208 (S.D.Tex. 1978), aff'd. 486 F.2d 137 (5th Cir. 1973), cert. denied 417 U.S. 969, 94 S.Ct. 3173, 41 L.Ed.2d 1140 (1974).

Louisiana has also been a prolific state for creation of First Amendment law on this topic. In *Edwards v. Aguillard*, 482 U.S. 578, 107 S. Ct. 2573, 96 L.Ed. 2d 510 (1987) the state passed a law that forbid the teaching of the theory of evolution in public elementary and secondary schools unless accompanied by instruction in the theory of "creation science." The District Court had no problem granting summary judgment that on its face the Act violated the Establishment Clause and the Court of Appeals affirmed. The intent was to discredit evolution as Douglas is attempting to do. No magic words are necessary or sufficient – the court will look at intent, which is determined by the promotion of religion in general which Douglas has done publicly.

Three teachers have sued to claim they had a right to teach a religious viewpoint and could not be forced to teach evolution. They all lost. In *Webster (Webster v. New Lenox School District)*, 917 F. 2d 1004, 63 Ed. Law Rep. 749 (1990), the court said teachers cannot teach anything they want, and that the district has a right to prohibit religious teaching to comply with the Constitution and to prohibit indoctrination in a certain religion or any religion. In *Peloza v. Capistrano Unified School District*, 37 F. 3d 517, 94 Ed. Law Rep. 1159 (1994), Peloza sued to claim that he could not be forced to teach “evolutionism” and that “evolutionism” is a religious belief system. He lost on every count and every argument. Evolution is science not religion, and the school has a valid interest in avoid an Establishment Clause violation that trumps Peloza’s right to free speech. In *LeVake v. Independent School District #656*, 625 N.W. 2d 502 [Minn. Ct. App. 2001], the teacher was simply transferred to teach another science class when he said he could not teach evolution though he had advance knowledge that it was required for the job. Thus he had no viable claims of any kind.

The *Freiler v. Tangipahoa Parish Board of Education*, 975 F. Supp 819 (1997) case riled the state of Louisiana for many years. A disclaimer was required to be read by teachers before teaching anything about evolution. The court found that the disclaimer added nothing secular to the teaching; rather it was a subterfuge. The students already were told to be critical thinkers, and they already knew they were able to maintain their own beliefs. If there is no clear secular purpose to the action, then it must be religious or had no purpose whatsoever. In the *Freiler* case, the review of the evidence left little doubt that the reason was religious and thus prohibited.

The case was appealed (*Freiler v. Tangipahoa Parish Board of Education*, 185 F. 3d 337 (5th Cir. 1999)). The appeals court affirmed. The proponents of the disclaimer argued there were only two things to believe, evolution or creation. That of course ignored the multitude of other theories. The school claimed it was about critical thinking and students gathering more information. The higher court also did not fall for the subterfuge. If the school wanted students to have more information or to critically analyze other ideas they would have included the 52 other theories of creation. The reason was clearly an attempt to benefit religion, which is prohibited.

The Board asked for a re-hearing en banc with the Fifth Circuit (*Freiler v. Tangipahoa Parish Board of Education*, 201 F. 3d 602 (5th Cir. 2000) because the lower court had improperly substituted “and” for “or” but the court held it had no affect on the outcome and upheld the dismissal.

Next up was *Georgia in Selman v. Cobb County School District*, 390 F. Supp 1286 (2005). After some parents complained about a new science textbook, the Board of Education put a sticker on certain science textbooks that said:

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.

Other parents objected and sued. An extensive trial was held.

In their analysis, the court combined the second and third prongs of the *Lemon* analysis into a single "effect" inquiry. (*Lemon v. Kurtzman*, 403 U.S. 602, 91 S.Ct. 2105, 29 L.Ed.2d 745 (1971)) The court determined that for the first prong of *Lemon* (secular purpose), any religious purpose for the state’s action must not be preeminent or masquerading as a secular purpose. To determine that, the court will look at the language, context, and contemporaneous history. Fostering critical thinking is a secular purpose but if that is already being done, then the disclaimer is a sham.

In *Selman*, there was no reference to religion in the sticker, but the court still found it was unconstitutional because the purpose was to ameliorate the objections of a certain religious sect that has historically opposed the teaching of evolution in public schools, which means the statement is intertwined with religion.

The second and third prongs of *Lemon* require the court to assess whether an informed, reasonable observer would interpret the state action to convey a message of endorsement of religion. If the state action sends a message to those who oppose evolution for religious reasons that they are favored members of the political community, while the state action sends a message to those who believe in evolution that they are political outsiders, this is unconstitutional. This is particularly so when the case involves impressionable public school students. "Given that courts should be "particularly vigilant in monitoring compliance with the Establishment Clause in elementary and secondary schools," (*Edwards*, 482 U.S. at 583-84, 107 S.Ct. 2573), the Court is of the opinion that the Sticker must be declared unconstitutional."

The state has to maintain not just fairness but the appearance of fairness. The critical language in the sticker that convinced the court that the sticker was for a religious purpose was the statement that "[e]volution is a theory, not a fact, concerning the origin of living things." That is the language Douglas has used. The problem with that language is that the general public knows, and the objective observer knows, that certain religious groups oppose the teaching of evolution. By stating that language, the ADE appears to have sided with the proponents of religious theories of origin in violation of the Establishment Clause.

It is well established that government cannot take a position on questions of religious belief. The court in the *Selman* case did extensive review of the literature to determine that encouraging the teaching of evolution as a theory rather than as a fact is one of the latest strategies to dilute evolution instruction employed by anti-evolutionists with religious motivations. So Douglas' claim that "creationism" and "intelligent design" will not be found in the curriculum only means that she has learned the lesson to not use those words. Instead she has shifted to the new attack strategy of requiring a statement that "evolution is a theory not fact."

The latest case over this attempt to attack evolution is *Kitzmiller v. Dover Area School District*, 400 F. Supp. 2d 707 (2005). The Board of Education there announced that teachers had to read a disclaimer before teaching evolution. The disclaimer stated that "Intelligent Design" was a different explanation that deserved consideration and referred students to the book "Of Pandas and People."

Parents, clergy and teachers sued saying that intelligent design is the establishment of religion forbidden by the Establishment Clause of the First Amendment and the court so held after a six-week trial. In a 58-page in-depth opinion, the court reviewed the federal jurisprudential legal landscape. They used both the *Lemon* test and the endorsement test in their analysis to find that the government had endorsed religion by its actions. The "objective observer" was also a key element in coming to their conclusion along with the analysis of whether the actions would create an in-group and an out-group. They looked at not only what the government intended to convey but also at what they actually conveyed.

The court found that adoption of the "intelligent design" theory does convey approval of religion. But the court went further and found that an objective observer would know that teaching about "gaps" and "problems" in evolutionary theory are really creationist, religious strategies that evolved from earlier forms of creationism.

Religious supporters began cloaking religious beliefs in scientific sounding language but that tactic has been unsuccessful. The new focus on "gaps" and "problems" is just an extension of that effort. The objective observer would be aware of the social context in which these arguments arose and reviewing history would know that the genesis is an endorsement of religion. By singling out only evolution and claiming it has inadequate empirical support, the intent is clear. The one scientific theory that has been historically opposed by certain religious sects is evolution. They haven't attacked the theory of gravity (or jumped out of a plane without a parachute) nor have they attacked the theory of relativity.

The court in its decision was very clear and very stern about the waste of judicial resources in constant re-litigation of this issue. They also scolded the backers of "intelligent design" for their lies and for their claim that the "controversy" should be taught when there is no controversy. They also aimed their ire at the national groups fomenting local problems to achieve their improper aims.

The court evaluated the claim under *Lemon* and found overwhelming evidence of the intent to advance religion. The board had been warned that their behavior was likely unconstitutional but they ignored the warning. It has been suggested that likewise Douglas solicited the advice of Attorney General Brnovich, which was then ignored. In the *Kitzmiller* case the board made the changes to curriculum without teacher input and under the cover of darkness. Here, Douglas made the changes in spite of teacher and expert input and inside the cloistered halls of her offices. In *Kitzmiller* teachers then refused to read the statement and the administrators had to do it. Here, one expert has already resigned rather than be a party to this travesty.

The actions of the Board in *Kitzmiller* caused real harm in the community by causing fear in the parents who opposed it, driving a wedge between people that had not existed before, and causing tension in the town. This is precisely why religion must remain a personal and not a governmental affair. The insertion of religion in a country that has a multitude of beliefs can only cause strife.

The law is clear and has been for literally centuries. To insert religion into the government hurts them both. They both have been thriving independently since 1776 and need to remain that way. Douglas' actions in attempting to diminish the teaching of evolution in the science standards is unconstitutional and must not be allowed.

## SCIENTIFIC EXPERTISE

Many organizations have investigated the issue of teaching evolution and passed resolutions. In 2008, Voices for Evolution published the following list of resolutions in favor of teaching evolution and not interjecting religious themes:

67 Scientific Organizations ranging from the Alabama Academy of Science to the West Virginia Academy of Science;

22 Religious Organizations ranging from African Americans for Humanism to the Roman Catholic Church to the United Presbyterian Church in the U.S.A;

45 Educational Institutions ranging from the American Association of Physics Teachers to the Wisconsin Department of Public Instruction;

10 Civil Liberties Organizations from American Civil Liberties Union to National Committee for Public Education and Religious Liberty.

These and more are in NCSE's publication Voices for Evolution, available on-line here: <https://ncse.com/library-resource/voices-evolution>

The National Association of Biology Teachers (NABT) Position Statement on Teaching Evolution is very clear that to teach biology, and other sciences, evolution has to be taught. They are not fooled by the use of other language or other concepts to mask an attempt to eliminate the teaching of evolution. "Evolution should not be misrepresented as 'controversial,' or in need of 'critical analysis' or special attention for any supposed 'strength or weakness' any more than other scientific ideas are." Yet that is precisely what ADE and Douglas are attempting to do. <https://nabt.org/Position-Statements-NABT-Position-Statement-on-Teaching-Evolution>

The National Science Teachers Association position on the teaching of evolution states that, "evolution is a major unifying concept in science and should be emphasized in K-12 science education frameworks and curricula." Without that, students are not prepared for STEM careers. Arizona, with its focus on increasing the bio-medical industry, will be producing students who cannot qualify for the very careers the state is emphasizing. <http://www.nsta.org/about/positions/evolution.aspx>

Further information can be found at the following websites:

<https://www.aaas.org/news/aaas-board-resolution-intelligent-design-theory>

<http://www.nas.edu/evolution/>

## CONCLUSION

The Secular Communities for Arizona strongly urges the State Board of Education to ensure that constitutional principles are not violated in the adoption of the new science standards for Arizona. The steps taken by Douglas to minimize the teaching of evolution can only drive a wedge into the community, cause disharmony within the schools and teachers, and ultimately result in expensive, hopeless litigation that will distract from the

needed revisions and cost innocent taxpayers. I look forward to hearing from you at your earliest opportunity. Thank you.

Sincerely,

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