

December 10, 2007

To Robert Scott, Commissioner of Education for Texas,

As biology faculty at Texas universities¹, we are deeply concerned by the forced resignation of Chris Comer, the director of science curriculum for the Texas Education Agency (TEA). Ms. Comer's ouster was linked to an email that she forwarded announcing a lecture by Barbara Forrest, a philosophy professor and distinguished critic of the intelligent design movement. A few days after sending the email, Ms. Comer was told she would be terminated. The memorandum she received from her superiors claimed that evolution and intelligent design are a "subject on which the agency must remain neutral".

It is inappropriate to expect the TEA's director of science curriculum to "remain neutral" on this subject, any more than astronomy teachers should "remain neutral" about whether the Earth goes around the sun. In the world of science, evolution is equally well-supported and accepted as heliocentrism. Far from remaining neutral, it is the clear duty of the science staff at TEA and all other Texas educators to speak out unequivocally: evolution is a central pillar in any modern science education, while "intelligent design" is a religious idea that deserves no place in the science classroom at all.

A massive body of scientific evidence supports evolution. All working scientists agree that publication in top peer-reviewed journals is the scoreboard of modern science. A quick database search of scientific publications since 1975 shows 29,639 peer-reviewed scientific papers on evolution in twelve leading journals alone². To put this in perspective, if you read 5 papers a day, every day, it would take you *16 years* to read this body of original research. These tens of thousands of research papers on evolution provide overwhelming support for the common ancestry of living organisms and for the mechanisms of evolution including natural selection. In contrast, a search of the same database for "Intelligent Design" finds a mere 24 articles, every one of which is critical of intelligent design³. Given that evolution currently has a score of 29,639-- while "intelligent design" has a score of exactly zero-- it is absurd to expect the TEA's director of science curriculum to "remain neutral" on this subject. In recognition of the overwhelming scientific support for evolution, evolution is taught without qualification-- and intelligent design is omitted-- at every secular and most sectarian universities in this country, including Baylor (Baptist), Notre Dame (Catholic), Texas Christian (Disciples of Christ) and Brigham Young (Mormon).

Evolution education is more than an academic question. Biotechnology is a key player in our economy, and biotech firms move to places with well trained biologists. Evolutionary biology has made fundamental contributions to drug synthesis, medical genetics, and our understanding of the origins and dynamics of diseases. Principles of evolution are at the basis of human genomics and personalized medicine and are applied daily by people working in medicine, agriculture, engineering, and pharmaceuticals. In contrast, anti-evolutionary ideas like intelligent design have yet to produce any medical or technological advances.

Even if the scientific evidence were not so one-sided, there remains the fact that intelligent design is a religious concept. In the 2004 court case *Kitzmiller vs. Dover*, Judge John E. Jones III (an appointee of President Bush) concluded that "not one defense

expert was able to explain how the supernatural action suggested by ID [intelligent design] could be anything other than an inherently religious proposition” and that the school board was trying to present “students with a religious alternative masquerading as a scientific theory.” Teaching intelligent design in public school science classes clearly violates the First Amendment of the Constitution, as emphasized in the 1987 Supreme Court decision *Edwards v. Aguillard*. The Texas Education Agency has a constitutional duty to keep intelligent design out of public school science classes, and leave religious instruction of children to their parents.

In *Kitzmiller v. Dover* Judge Jones concluded that the school board exhibited “breathtaking inanity” when it tried to adopt “an imprudent and ultimately unconstitutional policy.” The TEA appears to be flirting with an equally unsupportable policy. There can be no neutrality on an issue that is scientifically and legally clear-cut: evolution should be taught at the K-12 level in the same fashion that we teach it in universities, an accepted and rigorous science, not juxtaposed with a religious idea however politically popular. The agency should work to bolster evolution education in Texas rather than undermining it.

Sincerely,

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¹ The opinions expressed in this letter are not necessarily those of our Universities, but rather our own professional opinions as Ph.D. biologists.

² Counting all articles in the following journals devoted exclusively to evolutionary topics: Evolution, Journal of Evolutionary Biology, Molecular Biology and Evolution, Molecular Phylogenetics and Evolution, Systematic Biology, Evolutionary Ecology Research, Evolutionary Ecology, American Naturalist, and counting articles in Nature, Science, Proceedings of the Royal Society, and Proceedings of the National Academy of Sciences that have 'Evolution' in the title or abstract. By restricting the search to these few journals and the short time-span (since 1975), we are likely to vastly underestimate the number of research papers on evolution, which is probably several times higher than what we found here.

³ A search for "Intelligent Design" in the same journals listed above finds one article, which is critical of intelligent design. Opening the search to all indexed scientific journals (to be generous to ID), one finds 410 articles in all, most of which are irrelevant to biology, focusing on engineering or computer science. Restricting the search to "Biology and Intelligent Design" yields 24 papers, all critical of intelligent design.