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Dorothy, It's Really Oz.; By: Gould, Stephen Jay., Time, 08/23/99, Vol. 154 Issue 8, p59, 1p, 1c

Database: Business Source Premier

Section: Paleontology; Viewpoint

DOROTHY, IT'S REALLY OZ

A pro-creationist decision in Kansas is more than a blow against Darwin

The Kansas Board of Education voted 6 to 4 to remove evolution, and the Big Bang theory as well, from the state's science curriculum. In so doing, the board transported its jurisdiction to a never-never land where a Dorothy of the new millennium might exclaim, "They still call it Kansas, but I don't think we're in the real world anymore." The new standards do not forbid the teaching of evolution, but the subject will no longer be included in statewide tests for evaluating students--a virtual guarantee, given the realities of education, that this central concept of biology will be diluted or eliminated, thus reducing courses to something like chemistry without the periodic table, or American history without Lincoln.

The Kansas skirmish marks the latest episode of a long struggle by religious Fundamentalists and their allies to restrict or eliminate the teaching of evolution in public schools--a misguided effort that our courts have quashed at each stage, and that saddens both scientists and most theologians. No scientific theory, including evolution, can pose any threat to religion--for these two great tools of human understanding operate in complementary (not contrary) fashion in their totally separate realms: science as an inquiry about the factual state of the natural world, religion as a search for spiritual meaning and ethical values.

In the early 1920s, several states simply forbade the teaching of evolution outright, opening an epoch that inspired the infamous 1925 Scopes trial (leading to the conviction of a Tennessee high school teacher) and that ended only in 1968, when the Supreme Court declared such laws unconstitutional on First Amendment grounds. In a second round in the late 1970s, Arkansas and Louisiana required that if evolution be taught, equal time must be given to Genesis literalism, masquerading as oxymoronic "creation science." The Supreme Court likewise rejected those laws in 1987.

The Kansas decision represents creationism's first--and surely temporary--success with a third strategy for subverting a constitutional imperative: that by simply deleting, but not formally banning, evolution, and by not demanding instruction in a biblically literalist "alternative," their narrowly partisan religious motivations might not derail their goals.

Given this protracted struggle, Americans of goodwill might be excused for supposing that some genuine scientific or philosophical dispute motivates this issue: Is evolution speculative and ill founded? Does evolution threaten our ethical values or our sense of life's meaning? As a paleontologist by training, and with abiding respect for religious traditions, I would raise three points to alleviate these worries:

First, no other Western nation has endured any similar movement, with any political clout, against evolution--a subject taught as fundamental, and without dispute, in all other countries that share our major sociocultural traditions.

Second, evolution is as well documented as any phenomenon in science, as strongly as the earth's revolution around the sun rather than vice versa. In this sense, we can call evolution a "fact." (Science does not deal in certainty, so "fact" can only mean a proposition affirmed to such a high degree that it would be perverse to withhold one's provisional assent.)

The major argument advanced by the school board--that large-scale evolution must be dubious because the process has not been directly observed--smacks of absurdity and only reveals ignorance about the nature of science. Good science integrates observation with inference. No process that unfolds over such long stretches of time (mostly, in this case, before humans appeared), or at an infinitude beneath our powers of direct visualization (subatomic particles, for example), can be seen directly. If justification required eyewitness testimony, we would have no sciences of deep time--no geology, no ancient human history either. (Should I believe Julius Caesar ever existed? The hard bony evidence for human evolution, as described in the preceding pages, surely exceeds our reliable documentation of Caesar's life.)

Third, no factual discovery of science (statements about how nature "is") can, in principle, lead us to ethical conclusions (how we "ought" to behave) or to convictions about intrinsic meaning (the "purpose" of our lives). These last two questions--and what more important inquiries could we make?--lie firmly in the domains of religion, philosophy and humanistic study. Science and religion should be equal, mutually respecting partners, each the master of its own domain, and with each domain vital to human life in a different way.

Why get excited over this latest episode in the long, sad history of American anti-intellectualism? Let me suggest that, as patriotic Americans, we should cringe in embarrassment that, at the dawn of a new, technological millennium, a jurisdiction in our heartland has opted to suppress one of the greatest triumphs of human discovery. Evolution is not a peripheral subject but the central organizing principle of all biological science. No one who has not read the Bible or the Bard can be considered educated in Western traditions; so no one ignorant of evolution can understand science.

Dorothy followed her yellow brick road as it spiraled outward toward redemption and homecoming (to the true Kansas of our dreams and possibilities). The road of the newly adopted Kansas curriculum can only spiral inward toward restriction and ignorance.

ILLUSTRATION

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By Stephen Jay Gould

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**Source:** Time, 08/23/99, Vol. 154 Issue 8, p59, 1p

**Item:** 2154092

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