



THE AMERICAN
SOCIETY FOR
CELL
BIOLOGY

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February 24, 2004

Jennifer L. Sheets
President
Ohio State Board of Education
25 S. Front Street, 7th Floor
Columbus, OH 43215-4183

Dear Ms. Sheets,

I am writing as a research biologist, an educator, and an Ohioan to urge you to reject the adoption of tenth grade lesson plans on "Critical Analysis of Evolution" which incorporate the concept of "Intelligent Design".

I am a native of Cleveland, Ohio; a graduate of Kenyon College in Gambier; a Member and former Chair of the Advisory Board of the Lerner Research Institute of the Cleveland Clinic; and a Member of the Kenyon College Board of Trustees. My two brothers and I are proud members of the Cleveland Heights High School "Hall of Fame of Distinguished Graduates."

I am also President of the American Society for Cell Biology, a national organization with 11,000 members who are scientists in universities, colleges, professional schools, government, industry, and public and private research institutions. My research laboratory is at the Whitehead Institute for Biomedical Research, the institution where much of the human genome was sequenced, and for 35 years I have been Professor of Biology and Bioengineering at the Massachusetts Institute of Technology.

The simple point I wish to make is that "Creation Science" and "Intelligent Design" are not science. They should not be offered to students as plausible scientific theories alongside The Theory of Evolution, and they should not be allowed into the classroom under the guise of "Critical Analysis" of evolution or any other scientific theory. The ideas that form the basis of these lesson plans have never been tested by any scientific peer-scrutiny or peer-review. They are religious doctrines. I respect and defend the right of any religious organization to teach these concepts to its followers, but they have no place in a lesson plan in any public school.

The evidence for evolution is overwhelming, as most recently established from the sequences of the human, mouse, and many other genomes. We share many genes with all life forms on earth—including bacteria, yeasts, plants, worms, and mice—attesting to a single common origin of life billions of years ago. Similarly, over 99% of human genes are also found in the genomes of mice and other mammals, because there was a single common origin of mammals tens of millions of years ago.

These facts are not just of academic interest; they are the basis of our understanding of human disease and underlie the entire the biotechnology industry. Because of the commonalities of all life forms, we are able to manufacture many human therapeutic proteins—antibodies that cure breast cancer, blood clotting factors, hormones to treat anemia—in bacterial, yeast, and hamster cells. There are many additional potential treatments on the horizon.

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The inclusion of "Creation Science" in lesson plans in the state of Ohio will damage the reputation and the economy of the state far beyond the classroom. This action would compromise the credibility of public education in Ohio, making it extremely difficult for the state to recruit researchers and companies in modern biology and biotechnology. I have considerable experience in this area, in part because I am a founder of two of the most successful and profitable American biotechnology companies—Genzyme Corporation and Millennium Pharmaceuticals, both based in Cambridge, MA—and am an advisor to several pharmaceutical and investment companies.

Rest assured that no company would ever consider establishing its operations in a state where young people were not receiving a solid education in science. Recruiting top scientific talent and investments in biotechnology is, as I am sure you realize, extremely competitive. Lesson plans that are not based on science will create a tremendous disincentive; it will also damage the competitiveness of graduates of Ohio schools in college admissions and in the national and world marketplace.

I urge you to keep religion and science separate and reject the inclusion of these unsound and anti-scientific plans in the education of Ohio students.

Yours Sincerely,



Harvey A. Lodish, Ph.D.

President

The American Society for Cell Biology

Member, Whitehead Institute for Biomedical Research

Professor of Biology and Professor of Bioengineering

The Massachusetts Institute of Technology