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## TEACHING EVOLUTION AND THE CHALLENGE OF INTELLIGENT DESIGN: A SYMPOSIUM

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### ABSTRACT

A symposium titled “Teaching Evolution and the Challenge of Intelligent Design” was presented at the 66th annual meeting of the Southeastern Society of Biologists, University of North Alabama, Florence, AL, April 16, 2005. The symposium was arranged, introduced and moderated by John V. Aliff. The advent of a “scientific theory of intelligent design” has created conflict in religious denominations, public school educators, and within the community of scientists who are being threatened by the imposition of a specific religious view. Intelligent Design theory is a new form of creationism that abandons the biblical inerrancy of the older scientific creationism in favor of a neutral position on the age of the earth. Intelligent Design theory is not a valid scientific theory for these reasons: 1.) Its hypothetical, intuitive and religious assumption of the intelligent design of complex systems is not testable or falsifiable using the scientific method, 2.) ID “theory” cannot develop hypotheses, and 3.) ID theory does not predict new discoveries as a true scientific theory does. More simply put, ID cannot explain natural phenomena beyond the intuitive and religious assumption that “God did it.” The participants in the symposium – Barbara Forrest, Massimo Pigliucci, Taner Edis and Keith Miller – have written and edited leading papers and books on the challenges of creationism to the teaching and practice of science. The author lists 14 deceptions commonly used by scientific creationists and ID creationists in their propaganda.

**Keywords:** Symposium, teaching evolution, intelligent design, creationists, Cobb County evolution stickers, supernaturalism, scientific method, scriptural inerrancy,

### INTRODUCTION: CREATIONISM AS A RELIGIOUS MOVEMENT

I reflect back upon my own experience in arranging a similar symposium on “scientific creationism” at Emory University in Atlanta in 1980 that featured a scientist, a historian and a theologian. That symposium was a traditional academic reaction to the theological and purportedly scientific content of creationism and a response to a proposal in the Georgia legislature requiring the teaching of scientific creationism in the public schools. The proceedings of that symposium were distributed to the senate and house of the Georgia

Legislature who actually passed HB 690 slightly different versions of the bills, but failed to enact a compromise bill in joint session (1). Georgia legislators retired to their districts with a record of voting for God without the state having to defend their action in court as would happen later in Arkansas and Louisiana (see below).

A few days later a woman, who attended the last session at Glenn Memorial United Methodist Church in Atlanta, appeared at my office with some tapes she wanted to let me hear in an effort to convert me to scientific creationism. The tapes were oral chapters of John C. Whitcomb and Henry M. Morris, *The Genesis Flood*, (2), with Reverend Whitcomb reading. As one with a southern religious upbringing, I heard a powerful, mythological siren-like call to adhere to the simple proposition that the Judeo-Christian Bible is not only "God's Word," but scientific revelation as well. In a reaction to "blind faith," the scientific creationists substituted a materialist definition of faith by demanding that science confirm scripture and scripture confirm science, while simultaneously attacking the materialism of scientific explanation. Also applying the principle of scriptural inerrancy to science, we now have young earth Islamic creationists (Harun Yahya) and old earth Islamic creationists on the internet (3a, b, c, d, e). Henry Morris, who entered a Ph.D. program in geological engineering with the express purpose of proving the scientific accuracy of the Biblical "flood" account (4), followed *Genesis Flood* with a series of books that blame the theory of evolution for a multiplicity of evils including Nazism, Communism, religious heresy, abortion, crime, gay rights and women's liberation (5). And most biologists thought the theory of evolution was a useful theory to explain nature and not an attack on religion!

### **A "NEW" POLITICAL MOVEMENT: CREATIONISM DEVELOPS INTO INTELLIGENT DESIGN**

Creationists (e.g., Tim LaHaye, Jerry Falwell and Henry Morris worked together in San Diego) believe that they are the forerunners of a political revolution that will save America (4). Their goals are to establish a theocracy. The passing of anti-evolution laws represents their first efforts politically. If this effort to teach religion in the public schools fails, I predict that the ID creationist political movement will attempt to abolish public education.

Scientific creationists have failed to pass laws requiring the teaching of a version of science subservient to a particular religious viewpoint coequal to the teaching of evolution. However, creationists have learned from their legal experience and now have started a political campaign to force the teaching of a "scientific theory of intelligent design" (ID) that is not directly linked to biblical inerrancy.

As Judge Overton said in the 1982 Arkansas decision overturning a law requiring the teaching of scientific creationism, "creation science" was a "religious crusade coupled with a desire to conceal this fact" (6). The new ID creationists, like their scientific creationist forebears, attempt to disguise their religious and political motivations. The curricula of ID creationism and the older

scientific creationism are remarkably alike. Supported by illogical arguments, they are crescendos of erroneous observations about the meanings of the terms evolution and theory, as Massimo Pigliucci, evolutionary biologist of S.U.N.Y., Stony Brook, pointed out. Dr. Pigliucci's book *Denying Evolution: Creationism, Scientism and the Nature of Science* (7) traces the roots of American creationism to populism, anti-intellectualism, and scientism (science as an exclusive ideology to explain everything in human experience) taught by some science teachers. See Dr. Pigliucci's paper below.

Offering only anecdotes and evidence by analogies (e.g., the irreducible complexity of the "designed" mousetrap conflated to apply to biochemical pathways), ID creationist publications, websites, and films use sophisticated propaganda designed to confuse the boundary established between science and religion by traditional academic disciplines (science, philosophy and theology) and the U.S. Constitution. The AAAS, AIBS, Association of Southeastern Biologists (sponsor of the symposium), the American Chemical Society, the American Physical Society, the National Academy of Sciences, the Georgia Academy of Science, along with many other professional societies, have gone on record opposing the older "scientific creationism" and the current ID creationism.

Barbara Forrest, professor of philosophy of Southeastern Louisiana University, has written and spoken extensively about the political machinations of the ID movement. Her book, *Creationism's Trojan Horse: The Wedge of Intelligent Design* (8) is an important contribution to the knowledge of the politics behind the ID movement. Dr. Forrest explained the scope of the ID movement and their political force, which in Kansas recently led to kangaroo courts (Darwin trials) that featured ID creationists. The "trials" were followed by a 6 to 4 vote of the elected members of the Kansas State Board of Education to forward the pro-ID revisions derived from the "trials" ("criticisms of evolution" in K.B.O.E. terms.) to a standards committee of science educators who will certainly not approve them (this review is legally prescribed). Never the less, the Board can approve and enact the ID creationist curriculum in September of 2005 (9, 10, 11) over the objections of the professional review board. At this time (September, 2005) the board of education of Cobb County, GA, using taxpayer money, are appealing the legal decision of U.S. Judge Clarence Cooper (January, 2005) to remove anti-evolution stickers from public school textbooks. These stickers 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." The sticker's language, Judge Cooper also ruled, misused the scientific term theory by equating it with a "hunch" (12). See Dr. Forrest's paper below.

### **IS INTELLIGENT DESIGN SCIENTIFIC?**

Taner Edis, associate professor of Physics at Truman State University (MO.) and research associate of the Lawrence Livermore National Laboratory,

explained how the theory of intelligent design is scientifically flawed. He pointed out that Darwinian evolution (natural selection) has taken root outside the confines of Biology by moving into physics. Dr. Edis explained how both chance and necessity, in addition to natural selection, are vital to creativity in general. He has authored an important book on the topic of the symposium: *The Ghost in the Universe: God in Light of Modern Science* (13), and he has edited, with Matt Young, *Why Intelligent Design Fails, A Scientific Critique of the New Creationism* (14). Please refer to Dr. Edis' paper below.

The existence of God and the belief in a Creator cannot be tested or falsified using the methodology of science (6). Keith B. Miller is a research geologist (paleontologist) at Kansas State University and a Christian who has defined and defended the roles of science and religion in society. Dr. Miller and I made clear the value of science to describe nature using the evidence provided by nature itself. As a board member of Kansas Citizens for Science, he is very active in efforts to preserve quality science education in Kansas and to oppose recent attempts by ID advocates to change the public school curriculum. Dr. Miller edited the book, *Perspectives on an Evolving Creation* (15), which reflects his activities with the American Scientific Affiliation who believe that the discoveries of science do not conflict with religion or faith. See a fuller explanation of Dr. Miller's position below.

ID creationists attack the scientific method as "naturalism." Surprisingly, ID creationists want to infuse "supernaturalism" into the science curriculum by considering the role of God in designing nature. Their chief proponent is Phillip Johnson -- a retired professor of law (16). Intelligent Design may explain nature intuitively and therefore, religiously; but not rationally, that is using the logic of the scientific method. The idea is powerful simply because most people already believe it to be true. But scientifically ID theory cannot create testable and falsifiable explanations (hypotheses; see also 6). The so-called "scientific revolution of Intelligent Design," cannot describe how God does things or attempt to predict what God will do with nature. The argument of complexity indicating design is an old scientific creationist argument resurrected. For example, the ID creationist analogy asserting the irreducible complexity of the "designed" ear is much better explained by the fossil evidence of evolving cranial bones. Applying Darwin's principle of descent with modification, evidence clearly shows how ear bones (ossicles) gradually developed from vertebrate jawbones.

The failure of ID creation theory as science is cleverly hidden behind a wall of politically motivated propaganda. Massimo Pigliucci described the logical fallacies ID creationists use to attack the theory of evolution (e.g., equivocating evolution with either Darwinism or atheism). The principal logical flaw of ID is this: the unexplained in science is an opportunity to do further research to explain natural phenomena, not scientific evidence of a designer. As the associate editor of GaJSci Steve Whittle points out, "The invention of every thing we have (machinery, drugs, electrical appliances, etc) was hindered

at one time by a lack of knowledge. ID “science” seems to suggest that an invention cannot take place through observation of nature and experiment, but rather it must await a decision by God to make it” (personal communication). Indeed, in spite of the smoke screen of propaganda, the assumption of a designer is intuitive. As such it is a wonderful religious idea and its believers should proclaim it as such. However, ID is a scientific non-starter according to Taner Edis or a “science stopper” according to Eugenie C. Scott of the National Center for Science Education (10). For instance, one would have to abandon the explanation of how horses came to be. They did not evolve. Natural selection (Darwinism?) could not have been involved. New structures could not have been added one at a time (descent with modification). God designed them. End of scientific discovery!

### **SALVAGING SCIENCE EDUCATION BY CORRECTING MISINFORMATION**

The speakers’ presentations were followed by a panel discussion and questions from the audience. We concluded that the way science is taught has contributed to the public misconceptions that are being seized upon by the ID creationists. Science should be taught as a method of knowledge rather than a mass of facts alone.

We must understand the motivation of the creationists. They have a deep emotional response to any information that is perceived to threaten their understanding of religious scriptures. Although it may sound ridiculous to many, creationist suspicions about the “evils” of evolution and its effects on society must be addressed specifically. Instructors of evolution should avoid the battle of literalisms: scientific literalism vs. scriptural literalism. Science should not be taught as an exclusive way of explaining everything (scientism), as most people need a comfort zone for their spirituality. Scientific theories should be presented as concepts that not only describe a set of discoveries but also serve as a way of predicting new discoveries and formulating new hypotheses.

### **DECEPTIONS OF SCIENTIFIC CREATIONISM AND INTELLIGENT DESIGN CREATIONISM**

After reading 25 years of creationist literature, I offer this list of the common deceptions and misrepresentations made by creationists.

1. They pretend that evolution is only a “theory” in the sense of hunch. They ignore the fact that the vast majority of scientists conclude that evolution of species has occurred in the history of the earth.

2. The scientific creationists demand that their scriptures are, using literal interpretations, scientific descriptions of nature while ignoring flat earth and other conflicting observations that are not supported by science or logic.<sup>1</sup>

Although ID takes no formal position on the age of the earth Phillip Johnson wrote, “I have consistently said that I take no position on the age

of the earth, and that I regard the issue as not ripe for debate yet. I have also rejected all suggestions that I should denounce the YECs (young earth creationists) and instead have said that I regard high-quality YECs like Andrew Snelling (staff member of Henry Morris' Institute for Creation Research) as respected allies."<sup>2</sup> Johnson toured the United Kingdom in 2004, speaking at churches with Andrew Snelling.<sup>3</sup>

3. The scientific creationists want us to accept their idea that the earth was created 6-10 thousand years ago by criticizing evolution and avoiding the "creation research" that would overwhelmingly prove their point. This logic is similar to proving that UFOs are angels because some have soundly criticized the research techniques of the scientists delving into the reported phenomena. Therefore, the often repeated nostrum follows: "You must believe in either evolution or creation."

4. They pretend that their reactionary political-religious philosophy of teaching by indoctrination is an effort to "protect academic freedom." They justify this approach by saying that public education supports the indoctrination of a theory of evolution. [See reference 5.]

5. The ID and scientific creationists profess their ideas as a "scientific revolution" when they do most of the workshops and recruiting in churches. ID creationists, like their scientific creationist forebears, cannot get their ID articles published in peer-reviewed journals. [I can personally attest that the rejections are for reasons of scientific accuracy.]

6. In order to engage the rapidly rising populist anti-intellectualism of the industrialized world, they portray the theory and evidence of evolution as products of an atheist-humanist conspiracy.

7. They portray themselves as scientific when they don't allow for evidence to falsify their assumptions or otherwise apply the scientific method. By doing this, they practice pseudoscience.

8. They purport that the occasionally heated discussions of evolutionary principles among scientists mean that we privately agree that it is not a real phenomenon. They "cherry pick" statements (misquotes and out of context) to support that contention, making it appear that well known scientists (e.g., Dobzhansky, Gould, Eldridge and Patterson) support their position.

9. Henry Morris and his sons imply that since unconformities (so called out of sequence layers) occur in geological strata, geologists do not know what they are talking about. The same tactic is applied to radiological dating. See Ed Chatelain's excellent explanation of the unconformities of the Grand Canyon, (AZ) at [http://www.valdosta.edu/phy/hist\\_geo\\_lab/](http://www.valdosta.edu/phy/hist_geo_lab/).

10. The scientific creationists flagrantly assume to represent the philosophy of all Christians.

11. Creationists apparently believe that constant repetition of the ID creationist theme "Darwinism is dead" will make it so. The power of a simple propagandistic message is in its repetition. Accordingly, creationists believe democratic action will determine the conclusions made by science. This would be roughly equivalent to allowing a politically powerful lobby of

crystal healers to revise the curriculum of a California medical college.

12. By hammering at the naturalism of science, ID creationists hope to conceal the inadequacy of their “supernatural science.”

13. By asserting that evolution is a religion because it “requires belief,” they attempt to justify their position by confusing the issues. Propaganda, by definition, attempts to confuse issues by presenting misinformation.

14. Contrary to their moral instruction, creationists justify their unethical misuse of science and its findings by asserting that the evolutionists do the same thing.

15. To their “Christian” audience, the Institute of Creation Research accuses “evolutionists” of teaching “animal ethics” (hedonism).<sup>4</sup>

16. Scientific creationists (Gish) declare that there are no transitional fossils. Their reasoning works this way: when a fossil is found that has intermediate features such as *Artiocetus*, a walking whale or *Archeopteryx*, a flying reptile with a toothed, lizard-like skull and feathers; their tactic is to define it as one animal, a bird or a whale, respectively. That way they continue claiming that there are no transitional fossils.

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<sup>1</sup>The Chicago Statement on Biblical Inerrancy: “The truthfulness of Scripture is not negated by the appearance in it of irregularities [errors of] phenomenal descriptions of nature... or seeming discrepancies between one passage and another... Solution of them, where this can be convincingly achieved, will encourage our faith, and where for the present no convincing solution is at hand we shall significantly honor God by trusting His assurance that His Word is true, despite these appearances, and by maintaining our confidence that one day they will be seen to have been illusions.” <http://www.bible-researcher.com/chicago<sup>1</sup>.html>. Contrast this logic with the naturalism of science and Ockham’s Razor that yields: “What you see is what you get.”

<sup>2</sup>[http://www.touchstonemag.com/blogarchive/2004\\_09\\_26\\_editors.html](http://www.touchstonemag.com/blogarchive/2004_09_26_editors.html)

<sup>3</sup><http://www.darwinreconsidered.org/tournewstu.asp>

<sup>4</sup><http://www.icr.org/index.php?module+articles&action=view&ID=71>

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## CONCLUSION: SAVING SCIENCE

Evolutionary theory is powerful. As Theodosius Dobzhansky said, “Nothing in biology makes sense except in the light of evolution” (16). Darwin’s thinking has led us to test the theory of evolution and go beyond his mechanism of natural selection to test new explanations of genetic change and descent with modification. A hopeful view is that the future will bring better knowledge if science maintains the freedom to discover what nature offers. Considering the attempted religious censorship of Bacon in the 1200s, the burning of the heliocentrist astronomer Bruno and the censure of Galileo in the 1600s,



and in the 20th century, Lysenkoist persecutions of scientists in communist Russia (18); specifically, science and human curiosity have a long history of resistance to the dictates of ideologies, be they secular or religious.

Personally, I have no commitment to a theory of evolution or Darwinism other than that allowed by objective evidence for it and its predictive value. But there is something even more precious to protect here: that is the freedom of science to explore, explain, and relate what nature offers as phenomena.

The future becomes dark indeed if religious zealotry, mutated and folded into a political movement built upon pseudoscience and promulgated by the President of the United States, acquires the political power to decide what scientists may explore or what our children may be taught. I recall the ancient accounts of a Roman soldier callously killing the great Archimedes and a mob of religious zealots flaying the skin of Hypatia, a renown pagan female mathematician and philosopher; similarly, scientific discovery and its transmission of knowledge are being threatened by an ideology preying upon a uniformed and misinformed public. The late Carl Sagan warned (19), "We have also arranged things so that almost no one understands science and technology. This is a prescription for disaster. We might get away with it for a while, but sooner or later this combustible mixture of ignorance and power is going to blow up in our faces."

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It was revised and renamed in 1991 becoming *Christian Education for the Real World*. Cliché or not, the 1977 edition is the creationist *Mein Kampf*. This quote offers a good example of Morris' thinking: "Teaching is not the free pursuit of truth or the sharing of truth, it is indoctrination." See the book review at <http://www.asa3.org/ASA/BookReviews1949-1989/9-78.html>.

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