Whose "War" Is It, Anyway? Exposing Chris Mooney's Attack on Intelligent Design

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No part of the aim of normal science is to call forth new sorts of phenomena; in deed those that will not fit the box are often not seen at all. Nor do scientists normally aim to invent new theories, and they are often intolerant of those invented by others.

Thomas Kuhn, The Structure of Scientific Revolutions

Introduction

While intelligent design scientists and researchers see their efforts to develop the emerging theory of intelligent design as a search for objective answers, journalist Chris Mooney sees an army dedicated to destroying science itself. These mild-mannered scientists, who base their research on the scientific method and empirical evidence never thought their work would be twisted by critics into a national scare campaign which claims they are making "war" on science. Mr. Mooney argues that ID is merely a "reactionary crusade" promoted by "[s]cience abusers" who seek "to interfere with the process by which children are supposed to learn about the best scientific (as opposed to religious) answer" for biological origins. These words expose Chris Mooney's own "war" against intelligent design.

"War" is never good when it hurts scientists. Mr. Mooney always adopts scientific consensus as the gospel truth, but as Kuhn notes above, sometimes the consensus is closed to new ideas that may be right. Because it goes against consensus opinion, Mr. Mooney thinks that intelligent design is waging a "war" on science. But his book ignores the fact that the real "war" is the assault on the academic freedom and the very careers of scientists and other academics who investigate, discuss, or merely support intelligent design. While intelligent design may be a persecuted minority viewpoint within the scientific community, it is nonetheless receiving increasing levels of scientific support and its proponents continue to publish their research in scientific publications which develop and extend the theory. Meanwhile, Darwinists feel compelled to respond to ID-claims in scientific journals, admitting that their own literature has lacked adequate responses to the ID arguments.⁴

Mr. Mooney's attack upon the scientific theory of ID has a common theme of mischaracterizing the theory and tearing down only a straw-man version of intelligent design. The purpose of this response is to expose the real "war" worth talking about and correct Mr. Mooney's major errors, including his starkly false, straw-man version of intelligent design which he employs in order to allege that intelligent design is not science.

What follows are documented rebuttals to 14 major factual and logical errors in Chris Mooney's anti-ID chapter entitled "Creation 2.0" in *The Republican War on Science*.

NOTE: Any version that does not say at least "Version 1.1" is not the official first version of this document.

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² Thomas Kuhn, *The Structure of Scientific Revolutions*, pg. 24 (2nd ed. Chicago, University of Chicago Press 1970).

³ All quotations from Mr. Mooney's book in this response are taken from his online excerpt of Chapter 11, "Creation 2.0" available at freely online http://www.waronscience.com/excerpt.php

⁴ For a very recent example, see Mark J. Pallen and Nicholas J. Matzke, "From The Origin of Species to the origin of bacterial flagella," *Nature Reviews Microbiology*, AOP, published online 5 September 2006; doi:10.1038/nrmicro1493 which writes, "the flagellar research community has scarcely begun to consider how these systems have evolved."

Error #1: Mr. Mooney overpraises Darwin:

Mr. Mooney argues evolution is the "linchpin of modern biology," and "a bedrock of modern science," and one of the greatest intellectual achievements of human history." Charles Darwin was a brilliant scientist and deserves credit for his great insights into how species can change over time. Moreover, there is no question that Neo-Darwinism is today the prevailing paradigm among biologists for explaining biological origins. But does Neo-Darwinism deserve the high praise heaped upon it by Mr. Mooney?

It is a simple task to find quotes from scientists or scientific organizations saying evolution is crucial or key to all of modern biology. Over twenty years ago an Australian anthropologist explained in a secular journal why he thinks this is true:

[M]any scientists and technologists pay lip-service to Darwinian Theory only because it supposedly excludes a Creator from yet another area of material phenomena, and not because it has been paradigmatic in establishing the canons of research in the life sciences and the earth sciences.⁵

This explains why Mr. Mooney's statements about the grandeur of evolution are unlikely to impress those who are not already convinced of the accuracy of Neo-Darwinism. More recently, some eminent scientists—including some evolutionary biologists—are taking a different view. Writing in *The Scientist*, Philip S. Skell, member of the National Academy of Science and Emeritus Professor at Pennsylvania State University stated that, "my own research with antibiotics during World War II received no guidance from insights provided by Darwinian evolution [and] [n]or did Alexander Fleming's discovery of bacterial inhibition by penicillin." Skell goes on to report his experiences with evolution in empirical research:

I recently asked more than 70 eminent researchers if they would have done their work differently if they had thought Darwin's theory was wrong. The responses were all the same: No."

Skell finds many major discoveries in experimental biology were not aided by evolution. These include the discovery of the DNA double helix; the characterization of the ribosome; the mapping of genomes; research on medications and drug reactions; improvements in food production and sanitation; the development of new surgeries. If evolution won't save the world, can it yield commercial benefits? In August, 2006, evolutionary biologist Jerry Coyne wrote in an article entitled "Selling Darwin" in *Nature*, explaining that the answer is again, "No":

[I]f truth be told, evolution hasn't yielded many practical or commercial benefits. Yes, bacteria evolve drug resistance, and yes, we must take countermeasures, but beyond that there is not much to say. Evolution cannot help us predict what new vaccines to manufacture because microbes evolve unpredictably. But hasn't evolution helped guide animal and plant breeding? Not very much. Most improvement in crop plants and animals occurred long before we knew anything about evolution, and came about by people following the genetic principle of 'like begets like'. Even now, as its practitioners admit, the field of quantitative genetics has been of little value in helping improve varieties. Future advances will almost certainly come from transgenics, which is not based on evolution at all.⁷

One of the two commercial uses Coyne does find for evolution includes "the use of 'directed evolution' to produce commercial products (such as enzymes to protect crop plants from herbicides)." "Directed evolution" is otherwise known as intelligent design.

Error #2: Mr. Mooney claims ID traces itself to the theological arguments of William Paley:

Mr. Mooney claims that ID traces itself to William Paley, and rightly notes that Paley's arguments attempted to address questions about a supernatural divine creator – a claim which is beyond science. Rather, the debate over intelligent design traces back much further. The Greek philosophers Heraclitus, Empedocles, Democritus, and Anaximander proposed that life could originate without any intelligent

Philip S. Skell, "Why Do We Invoke Darwin? Evolutionary theory contributes little to experimental biology," *The Scientist*, Vol. 19(16):10 (August 29, 2005).

Dr. Michael Walker, Senior Lecturer, Anthropology, Sydney University, Quadrant, October 1981, page 45.

⁷ Jerry Coyne, "Selling Darwin: Does it matter whether evolution has any commercial applications?," reviewing The Evolving World: Evolution in Everyday Life by David P. Mindell, in *Nature*, Vol 442:983-984 (August 31, 2006) [emphasis added].

guidance, while Socrates and Plato advocated that mind was required.8 During the Roman era, Cicero cited the orderly operation of the stars as well as biological adaptations in animals as empirical evidence that nature was the product of "rational design." Moreover, leading ID theorist and biochemist, Michael Behe, explains that ID differs from Paley's argument in crucial respects which make ID scientific, in contrast to Paley's arguments which explicitly attempted to address theological questions:

The most important difference [between modern ID and Paley's arguments] is that [ID] is limited to design itself; I strongly emphasize that it is not an argument for the existence of a benevolent God, as Paley's was. I hasten to add that I myself do believe in a benevolent God, and I recognize that philosophy and theology may be able to extend the argument. But a scientific argument for design in biology does not reach that far. ... [A]s regards the identity of the designer, modern ID theory happily echoes Isaac Newton's phrase hypothesis non fingo.10

Intelligent design was also cited as a real possibility by the co-discoverer of natural selection. Alfred Russel Wallace, and the term "intelligent design" was even used by contemporaries of Darwin as an alternative to Darwin's viewpoint.11 Finally, the modern theory of ID has experienced a surge in popularity due to the discoveries in the past 30-40 years in genetics, molecular biology, and cell biology which have revealed a world of complex microbiological machines and the digital language-based genetic code underlying all of life. 12 ID clearly does not have solely religious origins, as Mr. Mooney would suggest.

Error #3: Mr. Mooney critiques a blatantly false, straw-man version of intelligent design:

Mr. Mooney argues that intelligent design is simply a negative "God-of-the-gaps" argument against evolution which appeals to supernatural. It is interesting to observe that Mr. Mooney's characterizations of ID include only 7 words¹³ from the actual technical writings of ID-proponents, but he quotes extensively from characterizations of ID promulgated ID-critics. Why not let proponents of a theory speak for themselves and define their own theory? Rather, Mr. Mooney primarily only lets the critics define intelligent design.

Mr. Mooney writes that the theory of ID claims "the massive amounts of biological information encoded in DNA could not have arisen through natural selection and must therefore have been designed by an intelligent agent." (emphasis added) Moreover, Mr. Mooney wrongly characterizes intelligent design as follows:

ID proponents mine the scientific literature, trying to find places where they think they can plausibly charge that evolutionary theory has failed (the Cambrian explosion, for example).

⁸ Taken from David Dewolf, John West, Casey Luskin, and Jonathan Witt, Traipsing Into Evolution: Intelligent Design and the Kitzmiller v. Dover Ruling [Discovery Institute Press, 2006]. For documentation, See Xenophon, Memorabilia of Socrates, Book I, chapter 4; Plato, The Laws, Book X; Michael Ruse, "The Argument from Design: A Brief History," in Debating Design 13-16 [William A. Dembski & Michael Ruse eds., Cambridge, Cambridge University Press 2004]; John Angus Campbell, "Why Are We Still Debating Darwinism? Why Not Teach the Controversy?" in Darwin, Design, and Public Education xii (John Angus Campbell & Stephen C. Meyer eds., East Lansing, Michigan State University Press 2003). 20. Cicero, De Natura Deorum 217, 237, 245 (H. Rackham, trans., Cambridge, Harvard University Press 1933).

¹⁰ Michael Behe, "The Modern Intelligent Design Hypothesis," Philosophia Christi, Series 2, Vol. 3, No. 1 (2001), pg. 165 [emphasis added]. Hypothesis non fingo means to not attempt to make any hypothesis on a point.

ⁱⁿ Alfred Russel Wallace, *Sir Charles Lyell on Geological Climates the Origin of Species, in* An Anthology of His Shorter Writings 33-34 (Charles H. Smith ed., Oxford University Press 1991); F. C. S. Schiller, Darwinism and Design Argument, in Humanism: Philosophical Essays 141 (F. C. S. Schiller, New York, The Macmillan Co. 1903). This particular essay was first published in the Contemporary Review in June, 1897. For an excellent article documenting this history, see Jonathan Witt, The Origins of the Term Intelligent Design, at http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=526 12 The book which popularized the modern theory of ID used these arguments based upon discoveries from the last 30-40 years in genetics and molecular biology—see Michael Behe, Darwin's Black Box (Free Press, 1996).

¹³By my count, the 7 insufficient words are: "intelligent," "rational," "origin of new biological information" quoting Stephen C. Meyer, "The Origin of Biological Information and the Higher Taxonomic Categories," Proceedings of the Biological Society of Washington, 117[2]:213-239 (2004).on page 179. Mr. Mooney's quote of Dembski on page 169 does not count because that is from a non-technical, non-scientific portion of a work by Dembski in a section entitled, "Design, Metaphysics, and Beyond," A listing of many of the technical writings of ID-proponents from which Mr. Mooney might have otherwise drawn can be found at Peer-Reviewed & Peer-Edited Scientific Publications Supporting the Theory of Intelligent Design (Annotated) at http://www.discovery.org/scripts/viewDB/index.php?command=view&id=2640&program=CSC%20-

uncertainty remains in the current evolutionary account—and as we have seen, uncertainty can never be fully dispelled in science—ID theorists swoop in and claim, "God must have done it."

This characterization paints intelligent design as merely a negative argument against evolution or argument from ignorance which appeals to God. This is a patently false version of intelligent design which Mr. Mooney has set up in order to make it appear unscientific. But this is *not* how ID proponents have formulated their theory.

Intelligent design is not merely a negative argument against evolution, but uses positive arguments based upon detecting in nature the types of information known to come from intelligence:

Firstly, the actual theory of intelligent design, rather than the straw-man version promoted by Mr. Mooney, is not merely a negative argument against evolution. Of course evidence against one theory does not therefore in-and-of-itself constitute evidence in favor of another theory. That's why the scientific theory of intelligent design employs a strong positive argument which is rooted in information theory, and our ability to detect in nature the types of information which we observe are caused by intelligence. Thus intelligent design has a positive argument which does not merely rely upon a negative argument against Neo-Darwinism. Stephen Meyer explains this argument in his peer-reviewed article:

Intelligent agents have foresight. Such agents can select functional goals before they exist. They can devise or select material means to accomplish those ends from among an array of possibilities and then actualize those goals in accord with a preconceived design plan or set of functional requirements. Rational agents can constrain combinatorial space with distant outcomes in mind. The causal powers that natural selection lacks-almost by definition-are associated with the attributes of consciousness and rationality-with purposive intelligence. Thus, by invoking design to explain the origin of new biological information, contemporary design theorists are not positing an arbitrary explanatory element unmotivated by a consideration of the evidence. Instead, they are positing an entity possessing precisely the attributes and causal powers that the phenomenon in question requires as a condition of its production and explanation.¹⁴

Meyer, along with microbiologist Scott Minnich, explains in another paper that with our understanding of the causal powers of intelligent agency, we can infer intelligent design for the origin of irreducibly complex structures:

Molecular machines display a key signature or hallmark of design, namely, irreducible complexity. In all irreducibly complex systems in which the cause of the system is known by experience or observation, intelligent design or engineering played a role the origin of the system. Given that neither standard neo-Darwinism, nor co-option has adequately accounted for the origin of these machines, or the appearance of design that they manifest, one might now consider the design hypothesis as the best explanation for the origin of irreducibly complex systems in living organisms. ... Although some may argue this is a merely an argument from ignorance, we regard it as an inference to the best explanation, given what we know about the powers of intelligent as opposed to strictly natural or material causes. We know that intelligent designers can and do produce irreducibly complex systems. We find such systems within living organisms.¹⁵

Thus, the theory of ID is based upon a positive argument which works by a two step process: (1) study intelligent agents to understand the types of information they produce when they act; (2) study natural objects to see if they have the types of information which in our experience is only caused by intelligence. This is a positive, empirically based theory of intelligent design, which does not simply rely upon negative evidence against evolution as "therefore" evidence for ID.

Intelligent design does not appeal to the supernatural, but stays entirely within the empirical realm:

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¹⁴ Stephen C. Meyer, "The Origin of Biological Information and the Higher Taxonomic Categories," *Proceedings of the Biological Society of Washington*, 117(2):213-239 (2004).

¹⁵ Scott A. Minnich and Stephen C. Meyer, "Genetic analysis of coordinate flagellar and type III regulatory circuits in pathogenic bacteria," Proceedings of the Second International Conference on Design & Nature, Rhodes Greece, edited by M.W. Collins and C.A. Brebbia [WIT Press, 2004] (internal citations removed).

Secondly, the actual theory of intelligent design stays entirely with the empirical realm, and does not try to address religious questions about the identity or nature of the designer, because it recognizes that these questions most likely lie outside of science. Of course science cannot appeal to supernatural causes because they are beyond the empirical boundaries of scientific inquiry. Indeed, the pro-ID textbook *Of Pandas and People* ("*Pandas*") adopts the very methodological naturalism that Chris Mooney claims intelligent design violates: "scientists ... failed to distinguish between intelligence, which can be recognized by uniform sensory experience, *and the supernatural, which cannot*. For this reasoning, the *Pandas* textbook states that intelligent causes are appropriate for science, but supernatural causes are not:

Today we recognize that appeals to intelligent design may be considered in science, as illustrated by current NASA search for extraterrestrial intelligence (SETI). Archaeology has pioneered the development of methods for distinguishing the effects of natural and intelligent causes. We should recognize, however, that if we go further, and conclude that the intelligence responsible for biological origins is outside the universe (supernatural) or within it, we do so without the help of science.¹⁷

ID proponents testified to this effect during the *Kitzmiller* trial. When Scott Minnich was asked if intelligent design requires supernatural creation, "whether intelligent design requires the action of a supernatural creator?" he plainly replied "[i]t does not." Similarly, Michael Behe explained in his book *Darwin's Black Box*, that one needs not know anything about metaphysical nature of the designer to infer design:

The conclusion that something was designed can be made quite independently of knowledge of the designer. As a matter of procedure, the design must first be apprehended before there can be any further question about the designer. The inference to design can be held with all the firmness that is possible in this world, without knowing anything about the designer.¹⁹

Thus, leading ID-theorist, philosopher and mathematician William Dembski, explains that intelligent design does not try to address questions about the identity or nature of the designer:

By contrast, intelligent design nowhere attempts to identify the intelligent cause responsible for the design in nature, nor does it prescribe in advance the sequence of events by which this intelligent cause had to act. . . . Intelligent design is modest in what it attributes to the designing intelligence responsible for the specified complexity in nature. For instance, design theorists recognize that the nature, moral character and purposes of this intelligence lie beyond the remit of science. As Dean Kenyon and Percival Davis remark in their text on intelligent design: 'Science cannot answer this question; it must leave it to religion and philosophy."

Dembski also explains that intelligent design does not try tot address religious questions about the identity or nature of the designer, nor does it even try to study the intelligence responsible for life, but merely seeks to study natural objects to see if they bear the reliable indicators that they were designed by intelligence:

Intelligent design is the science that studies signs of intelligence. Note that a sign is not the thing signified. Intelligent design does not try to get into the mind of the designer and figure out what a designer is thinking. Its focus is not a designer's mind (the thing signified) but the artifact due to a designer's mind (the sign). What a designer is thinking may be an interesting question, and one may be able to infer something about what a designer is thinking from the designed objects that a designer produces (provided the designer is being honest). But the designer's thought processes lie outside the scope of intelligent design. As a scientific research program, intelligent design investigates the effects of intelligence and not intelligence as such.²¹

¹⁶ DEAN H. KENYON & PERCIVAL DAVIS, OF PANDAS AND PEOPLE: THE CENTRAL QUESTION OF BIOLOGICAL ORIGINS 126-127 (2nd ed. 1993) [emphasis added].

DEAN H. KENYON & PERCIVAL DAVIS, OF PANDAS AND PEOPLE: THE CENTRAL QUESTION OF BIOLOGICAL ORIGINS 126-127 (2nd ed. 1993) [emphasis added].

¹⁸ Transcript of Testimony of Scott Minnich 45-6, 135, *Kitzmiller*, No. 4:04-CV-2688 (M.D. Pa., Nov. 3, 2005).

¹⁹ Michael Behe, *Darwin's Black Box*, pg. 197 (Free Press, 1996).

²⁰ William A. Dembski, *Intelligent Design: The Bridge Between Science and Theology*, pgs. 247-248 (InterVarsity Press, 1999).

William A. Dembski, "Chapter 1: Intelligent Design: What is intelligent design?" in *The Design Revolution*, pg. 33 (InterVarsity Press, 2004).

The theory of intelligent design leaves as an open question the identity of the designer. While many ID-proponents may believe the designer is God, this is their personal religious belief, and does not stem from intelligent design theory. (Personal religious beliefs are irrelevant to determining whether a theory is scientific – see Error #9.) Indeed, some design-proponents are not theists, demonstrating that the theory of ID is not tied to a particular religious view about the identity of the designer. Thus Mr. Mooney is wrong to claim that intelligent design violates methodological naturalism:

Judge Jones further faults ID for violating "methodological naturalism" (sometimes called "methodological materialism"), which he repeatedly credits as a foundational "ground rule" of science for the past several centuries. Methodological naturalism "limits inquiry to testable, natural explanations about the natural world." Whether methodological naturalism is really a foundational ground rule for the operation of science has been sharply disputed by historians and philosophers of science. Assuming ad arguendo that Judge Jones is correct, his argument proves far less than he believes. Intelligent design, properly conceived, does not need to violate methodological naturalism, a point that expert witness Scott Minnich made clear at trial. To understand why this is the case, one needs to understand how a design inference is drawn. Intelligent design theory assumes that intelligence is a property which we can understand through general observation of intelligent agents in the natural world. An intelligent agent exhibits predictable modes of designing because it has the property of intelligence, regardless of whether or not the agent is "natural" or "supernatural." Thus, the theory of intelligent design does not investigate whether the designing intelligent agent was natural or supernatural because it assumes that things designed by an intelligence may possess certain perceptible properties regardless of whether that intelligent agent is a natural entity, or in some way supernatural.22

If Mr. Mooney wants to critique intelligent design, that is fine. But he should critique the actual version of the theory and not a straw-man version which he misconstrues in order to tear down.

Error #4: Mr. Mooney implies there are no peer-reviewed scientific publications supporting ID:

Mr. Mooney claims that "literature searches have failed to turn up scientific papers published in peer-reviewed journals that explicitly present research that supports the ID hypothesis." This is a strange claim on the part of Mr. Mooney because he later in his chapter against ID explicitly contradicts this claim by acknowledging (and critiquing) the peer-reviewed paper by Stephen C. Meyer explicitly presenting research that supports the ID hypothesis in *The Proceedings of the Biological Society of Washington* (see Error #12 for a discussion of this issue). Despite the fact that ID is a fledgling theory-only about 10 years old—and funding for the ID movement is miniscule compared to the vast purses of government funding readily available to evolutionary biologists, ID proponents have published a number of scientific publications supporting their ID-arguments in scientific venues, a sample of which are listed below:²³

Stephen Meyer, "The Origin of Biological Information and the Higher Taxonomic Categories" *Proceedings of the Biological Society of Washington* 117(2004):213-239.

William A. Dembski, *The Design Inference: Eliminating Chance through Small Probabilities* (Cambridge: Cambridge University Press, 1998).

Michael J. Behe and David W. Snoke, "Simulating Evolution by Gene Duplication of Protein Features That Require Multiple Amino Acid Residues," *Protein Science*, 13 [2004]: 2651-2664.

W.-E. Lönnig & H. Saedler, "Chromosome Rearrangements and Transposable Elements," *Annual Review of Genetics*, 36 (2002): 389-410.

²² David Dewolf, John West, Casey Luskin, and Jonathan Witt, *Traipsing Into Evolution: Intelligent Design and the Kitzmiller v. Dover Ruling,* pg. 34-35 (Discovery Institute Press, 2006).

²³ A more complete listing can be found at Peer-Reviewed & Peer-Edited Scientific Publications Supporting the Theory of Intelligent Design (Annotated) at

^{%20}Scientific%20Research%20and%20Scholarship%20-%20Science

Perhaps the searches weren't looking in the right places, or perhaps they were conducted by people who weren't willing to accept the reality that ID has published peer-reviewed publications.

Error #5: Mr. Mooney alleges that the controversy over evolution is "manufactured":

Five years after Michael Behe published *Darwin's Black Box*, biochemist Franklin Harold wrote in a scientific monograph published by Oxford University Press, that while he rejects intelligent design, "[w]e must concede that there are presently no detailed Darwinian accounts of the evolution of any biochemical or cellular system, only a variety of wishful speculations."²⁴ Incredibly, Mr. Mooney claims that the "controversy" over evolution is "manufactured" by proponents of intelligent design. If that is true, then why have over 600 Ph.D. scientists signed a "Scientific Dissent from Darwin" which states that they "are skeptical of claims for the ability of random mutation and natural selection to account for the complexity of life. Careful examination of the evidence for Darwinian theory should be encouraged."²⁵

Moreover, if there is no scientific controversy, then why are Darwinists responding to the scientific claims of ID-proponents in leading scientific journals such as *Science* and *Nature*? One article recently published in *Nature Review Microbiology* acknowledges that "the flagellar research community has scarcely begun to consider how these systems have evolved." Another anti-ID paper published in *Science* earlier this year concedes that "[i]f an elaborate lock fits an elaborate key, we immediately sense purpose of design: The key was crafted with the idea of the lock in mind." In a talk given before the American Association for the Advancement of Science (AAAS), one Darwinian scientist acknowledged that "the concept of biological complexity itself—how it may be defined and whether complexity increases in evolution—is often perceived as controversial." Apparently many Darwinian scientists are indeed debating the controversy which according to Mr. Mooney and his authorities (see below), doesn't exist. Es

Indeed, many Darwinists have acknowledged that they try to pretend there is no controversy over intelligent design for purely political reasons. Writing in *The New Yorker*, evolutionary biologist H. Allen Orr concedes, "Many scientists avoid discussing I.D. for strategic reasons. If a scientific claim can be loosely defined as one that scientists take seriously enough to debate, then engaging the intelligent-design movement on scientific grounds, they worry, cedes what it most desires: recognition that its claims are legitimate scientific ones." Orr's account is consistent with how the eminent historian of science Thomas Kuhn explained that scientists behave when confronted with data that runs contrary to the prevailing paradigm:

No part of the aim of normal science is to call forth new sorts of phenomena; in deed those that will not fit the box are often not seen at all. Nor do scientists normally aim to invent new theories, and they are often intolerant of those invented by others.³¹

As evidence for the lack of a controversy, Mr. Mooney appeals to authorities who boldly declare 'there is no controversy.' The Ohio State Board of Education believed there was such a controversy over evolution that students deserved to learn about, and in 2003 adopted a Critical Analysis of Evolution Lesson Plan.³² Yet

²⁴ Franklin M. Harold, *The Way of the Cell: Molecules, Organisms and the Order of Life*, pg. 205 (New York, Oxford University Press 2001).

²⁵ See "A Scientific Dissent from Darwin" at http://www.dissentfromdarwin.com

²⁶ Mark J. Pallen and Nicholas J. Matzke, "From The Origin of Species to the origin of bacterial flagella," *Nature Reviews Microbiology*, AOP, published online 5 September 2006; doi:10.1038/nrmicro1493.

²⁷ Christoph Adami, "Reducible Complexity," Science, Vol 311:61 [April 7, 2006].

Abstract of Christoph Adami's "Evolution of Biological Complexity" lecture before the AAAS, available at http://www.aaas.org/spp/dser/02_Events/Lectures/2005/02_Lecture_2005_1020.shtml

For a lively anecdote about how some Darwinists are trying to hide the scientific controversy over claims made by proponents of intelligent design, see Paul Nelson, "Debating the Controversy that Doesn't Exist," at

http://www.idthefuture.com/2006/04/debating_the_controversy_that_1.html and then read Paul Nelson, "Say It Ain't So Joe: Thornton Lab Purges His University of Oregon Webpage," at

http://www.idthefuture.com/2006/04/say_it_aint_so_joe_thornton_pu.html

³⁰ H. Allen Orr in Devolution: Why intelligent design isn't; The New Yorker, May 30, 2005, newyorker.com/fact/content/articles/050530fa_fact (emphasis added).

³¹ Thomas Kuhn, *The Structure of Scientific Revolutions*, pg. 24 (2[∞] ed. Chicago, University of Chicago Press 1970).

³² The Lesson Plan was repealed pending review in February, 2006.

Mr. Mooney writes that Ohio's Lesson Plan "contains spurious critiques of evolution that scientific experts have rejected and was explicitly opposed by the National Academy of Sciences." It should be noted that the National Academy of Science has a membership of biologists who are nearly 95% atheists or agnostics. But why trust potentially biased-authorities when we can simply look at the Lesson Plan itself and make our own judgments? If the critiques are "spurious" then why do pages 9-12 of the Lesson Plan refer students to **37 mainstream-scientific publications**, many of which are peer-reviewed papers from mainstream scientific journals, for usage as they complete the lesson? The papers present evidence which both supports and challenges Neo-Darwinism in areas dealing with systematics (homology), paleontology, antibiotic resistance, the "peppered moth" story, and endosymbiosis theory, and serve as excellent resources by which students can learn and answer the questions.

As an example, in its section on the fossil record, the Lesson Plan notes that a critique of Darwin's theory is that the record shows the "sudden appearance" of many species. Many mainstream evolutionist paleontologists have recognized that fossils appear "abruptly" or "suddenly" in the fossil record:

Many species remain virtually unchanged for millions of years, then suddenly disappear to be replaced by a quite different, but related, form. Moreover, most major groups of animals **appear abruptly** in the fossil record, fully formed, and with no fossils yet discovered that form a transition from their parent group. Thus, it has seldom been possible to piece together ancestor-dependent sequences from the fossil record that show gradual, smooth transitions between species.³⁴

Paleontologists had long been aware of a seeming contradiction between Darwin's postulate of gradualism ... and the actual findings of paleontology. Following phyletic lines through time seemed to reveal only minimal gradual changes but no clear evidence for any change of a species into a different genus or for the gradual origin of an evolutionary novelty. Anything truly novel always seemed to appear quite abruptly in the fossil record.³⁵

The fossil record with its abrupt transitions offers no support for gradual change. All paleontologists know that the fossil record contains precious little in the way of intermediate forms; transitions between major groups are characteristically **abrupt**. **

The Cambrian explosion is named for the geologically **sudden appearance** of numerous metazoan body plans (many of living phyla) ...³⁷

Discovery Institute has compiled an extensive bibliography of mainstream scientific references which were documented to the Ohio State Board of Education that demonstrate scientific critique of various key aspects of Neo-Darwinism.³⁸ The complaints Mr. Mooney cites stem from the desire of some Darwinists to insulate evolution from scientific questioning, not from the scientific evidence itself.

Error #6: Mr. Mooney insinuates that Discovery Institute opposed Dover's ID Policy because Discovery Institute allegedly believes ID is unconstitutional:

Discovery Institute, where the author is employed, has been recognized in the media as a leading advocate of intelligent design.³⁹ Mr. Mooney deserves credit for recognizing that Discovery Institute opposed the ID-policy which caused the *Kitzmiller v. Dover* case. This point apparently went unnoticed by Judge Jones who,

http://www.discovery.org/scripts/viewDB/index.php?command=view&id=1127

Edward J. Larson & Larry Witham, "Leading scientists still reject God," *Nature*, Vol 394:313 (July 23, 1998); Edward J. Larson and Larry Witham, "Scientists and Religion in America," *Scientific American* 281:88–93, September, 1999.

³⁴ Hickman, C.P., L.S. Roberts, and F.M. Hickman. 1988. Integrated Principles of Zoology. Times Mirror/Moseby College Publishing, St. Louis, MO., pg. 866 (emphasis added).

³⁵ Mayr, E., *One Long Argument: Charles Darwin and the Genesis of Modern Evolutionary Thought* (Harvard University Press, 1991) p. 138 (emphasis added)

³⁶ Stephen Jay Gould, Natural History, 86, June-July, 1977, pp. 22, 24 (emphasis added).

³⁷ Valentine, Jablonski, Erwin, *Development* 126:851-859 [1999] (emphasis added).

³⁸ Bibliography of Supplementary Resources For Science Instruction

See Paul Nussbaum, "Court test is near for `intelligent design," *Philadelphia Inquirer*, Sept. 25, 2005 http://www.philly.com/mld/inquirer/living/religion/12732377.htm; Jodi Wilgoren, "Politicized Scholars Put Evolution On the Defensive," *The New York Times*, August 21, 2005.

in the *Kitzmiller* ruling, implies that Dover passed its policy with Discovery Institute's guidance.⁴⁰ But Mr. Mooney is flatly wrong when he states that Discovery opposes Dover's policy because it believe ID is unconstitutional: "a tack the Discovery Institute has come to oppose, probably because of its obvious unconstitutionality." Mr. Mooney's words imply that Discovery Institute did not oppose Dover's policy from the beginning, which it actually did.⁴¹ As stated on Discovery Institute's website, we "believe there is nothing unconstitutional about voluntarily discussing the scientific theory of design in the classroom" but oppose mandating ID because it hinders the scientific research efforts of pro-ID scientists:

As a matter of public policy, Discovery Institute opposes any effort to require the teaching of intelligent design by school districts or state boards of education. Attempts to mandate teaching about intelligent design only politicize the theory and will hinder fair and open discussion of the merits of the theory among scholars and within the scientific community. Furthermore, most teachers at the present time do not know enough about intelligent design to teach about it accurately and objectively.⁴²

Thus Discovery Institute's position is clear: don't mandate ID (due to policy reasons), but if you want to talk about it, feel free, as there is nothing wrong with that. Dover tried to mandate ID, which is why Discovery opposed their policy. Had Mr. Mooney read Discovery Institute's Amicus Brief⁴³ to Judge Jones in the *Kitzmiller* case or a response to the *Kitzmiller* ruling by Discovery affiliates, *Traipsing Into Evolution*, he would have found that Discovery plainly believes ID is constitutional.

Error #7: Mr. Mooney implies it is inappropriate to "teach the controversy" over evolution:

Mr. Mooney quotes an anti-ID activist saying that the "teach the controversy" strategy was "pioneered in the wake of Edwards v. Aguillard" and he claims it is really trying "to advance religious and moral goals." The "teach the controversy" pedagogical approach to teaching evolution encourages teachers to inform students about both the scientific strengths and weaknesses of evolution, rather than bringing in alternative "replacement" theories to evolution. If this approach was developed following a U.S. Supreme Court ruling, so what? Since when is it bad policy to follow Supreme Court guidance, which in the *Edwards* ruling stated, "We do not imply that a legislature could never require that scientific critiques of prevailing scientific theories be taught"? Even the ACLU agrees that "any genuinely scientific evidence for or against any explanation of life may be taught." In 2001, U.S. Congress adopted language which supports such a policy into the conference report of the No Child Left Behind Act:

Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist...47

This was subsequently endorsed by the U.S. Department of Education, which stated "[t]he department, of course, embraces the general principles – reflected in the Senate's Resolution – of academic freedom and inquiry into scientific views and theories." Finally, what would Darwin Do? He wrote in *Origin of Species*

⁴⁰ Kitzmiller v. Dover, 400 F.Supp.2d. 707, 750, 753, 759, 763 (M.D. Pa. 2005) (pages 100, 107, 122-123, and 131 of online version).

⁴¹ See Pennsylvania School District Considers Supplemental Textbook Supportive of

Intelligent Design: Discovery Institute continues to recommend fully teaching Darwinian evolution, including scientific challenges to the theory; October 6, 2004, discovery.org/scripts/viewDB/index.php?command=view&id=2231 and also see Martha Raffaele, Associated Press, "Mandate to teach 'intelligent design' as evolution alternate is believed to break ground," November 12, 2004.

⁴² Discovery Institute's Science Education Policy (available at

http://www.discovery.org/scripts/viewDB/index.php?command=view&id=3164&program=CSC%20-

^{%20}Science%20and%20Education%20Policy%20-%20School%20District%20Policy%20-%20MainPage)

⁴³ http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=646

⁴⁴ Casey Luskin, "Alternative Viewpoints about Biological Origins as Taught in Public Schools," 47 (3) *Journal of Church and State* 583, 622-617 (Summer, 2005).

⁴⁵ Edwards v. Aguillard, 482 U.S. 578 (1987) at 593.

⁴⁶ A Joint Statement of Current Law on Religion in the Public Schools as found at

http://www.aclu.org/religion/schools/16146leg19950412.html

⁴⁷ Conference report to No Child Left Behind Act, House Committee of Conference, *Report to Accompany H.R. 1*, 107th Cong. 1th sess., 78 (2001) H. Rept. 334, 78 (emphasis added). This language was originally supported by a 91-8 vote by the U.S. Senate.

⁴⁸ Letter from Gene Hickock, Acting Deputy Secretary, U.S. Dept. of Education, March 8, 2004. The "Senate Resolution" is the resolution which formed the basis for the Congressional statement cited above in the first citation.

that "[a] fair result can be obtained only by fully stating and balancing the facts and arguments on both sides of each question." Teaching the controversy over evolution teaches students more about science, improves students' critical thinking skills, and inspires students to become scientists who will investigate scientific controversies in biology. It is good science, good pedagogy, as well as sound legal policy to teach students about scientific strengths and weaknesses of evolution. That the U.S. Supreme Court implied as such should not be a criticism of this approach—it is a strength! There is much justification for teaching the scientific controversy over evolution.

Error #8: Mr. Mooney insinuates the Santorum Amendment inappropriately "singles out" evolution:

Mr. Mooney writes that the Santorum Amendment is guilty of "singling out evolution." But is this inappropriate? While the amendment itself only mentions evolution, the language which was included into the Conference Report of the No Child Left Behind Act does *not* single-out evolution, but says that "[w]here topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist..." Thus, the final language stated that any topic which generates controversy should require full disclosure.

This precise reasoning has been employed by some courts to justify the singling out of evolution. In Selman v. Cobb County, plaintiffs argued that the district was inappropriately singling out evolution for a religious purpose. The district court rejected this argument because "evolution is the only theory of origin being taught in Cobb County classrooms" and "evolution was the only topic in the curriculum, scientific or otherwise, that was creating controversy at the time of the adoption of the textbooks and Sticker." Thus the court noted that "[t]he School Board's singling out of evolution is understandable in this context." Similar reasoning was used in Freiler v. Tangipahoa Parish Board of Education where the Fifth Circuit appellate panel found that it was a legitimate legislative purpose to single out evolution in a policy because it had the legitimate secular purpose "to disclaim any orthodoxy of belief that could be inferred from the exclusive placement of evolution in the curriculum, and (3) to reduce offense to the sensibilities and sensitivities of any student or parent caused by the teaching of evolution." Thus, many courts have rejected the "singled out" argument from evolutionists.

In the end, nothing but good can result from applying scientific critique or critical analysis in many areas of science, and it is not necessary to "single out" evolution for scientific critique. As the Santorum Amendment's language in the No Child Left Behind Act suggests, it is most appropriate to apply where scientific theories are controversial. But pedagogical benefits can also result when a school board chooses to focus scientific critique upon Darwinian theory. Why would Darwinists oppose this? In fact, it is the Darwinists who "single out" evolution as the only theory which is apparently beyond scientific critique. What are their motives?

Finally, Mr. Mooney critiques the Santorum amendment because it was influenced by Phillip Johnson, who is an ID-proponent. This is an inappropriate argument which commits the genetic fallacy.⁵⁴

Error #9: Mr. Mooney argues that intelligent design is not science because some of its proponents have Christian religious beliefs and motives:

Mr. Mooney makes his claims by praising "Creationism's Trojan Horse," a book by Barbara Forrest and Paul Gross. The deficiencies were recounted in striking detail by 85 scientists who submitted an amicus brief to the court in support of intelligent design during the *Kitzmiller* trial:

⁴⁸ Charles Darwin, *The Origin of Species*, ed. J. W. Burrow (London: Penguin Group, 1985), (1859), 66.

⁵⁰ Conference report to No Child Left Behind Act; House Committee of Conference, *Report to Accompany H.R. 1*, 107th Cong. 1th sess., 78 (2001) H. Rept. 334, 78 (emphasis added). This language was originally supported by a 91-8 vote by the U.S. Senate. ⁵¹ *Selman v. Cobb County Board of Education*, 390 F. Supp. 2d 1286, 1302 (N.D. Ga. 2005), vacated and remanded, 449 F.3d 1320, 2006 U.S. App. LEXIS 13005 (11th Cir. 2006).

[™] *ld.* at 1303

⁵³ Freiler v. Tangipahoa Parish Board of Education, 185 F.3d 337, 344 (5th Cir. 1999), cert. denied, 530 U.S. 1251 (2000).

⁵⁴ "The genetic fallacy is a logical fallacy based on the irrelevant appraisal of something based on its origin." http://en.wikipedia.org/wiki/Genetic_fallacy

Creationism's Trojan Horse, co-authored by Dr. Barbara Forrest (one of plaintiffs' experts), epitomizes the argument that because many intelligent design theorists are devoutly religious, therefore intelligent design proponents intend to pass off religion as science and are not offering design as a scientific theory.

Forrest's book devotes little space to evaluating the science of intelligent design, but is full of documentation of irrelevant connections (sometimes concrete and sometimes highly tenuous) between intelligent design proponents and religious organizations. Such harping upon the religious affiliations of design proponents and their allegedly deceitful scholarship is bigoted as well as beside the point.

This "Trojan Horse" method of critique encourages discrimination against intelligent design proponents by fostering a stereotype among academics that supporters of design are incompetent scientists who use deceitful methods to peddle religion as though it were science. Such a prejudicial tactic would never be permitted if the alleged agenda of the accused group were, say, feminism or gay rights. Indeed, no other group of academics face attacks on their professional careers based primarily on their alleged personal beliefs. Arguments employing such ad hominem attacks on the supposed religious beliefs of design theorists should be decisively rejected by this Court. 55

Mr. Mooney makes these arguments well. He extensively discusses the personal religious beliefs of IDproponents such as Phillip Johnson, Stephen Meyer, William Dembski, and Jonathan Wells, as well as some funders of the ID movement and even writes, "ID proponents cannot seem to keep out of churches." In another article he writes that "references to God and religion aren't particularly difficult to find among ID defenders, if you know where to look."56 So what? And why ignore that ID-proponents make their case for ID using technical, empirically-based scientific arguments that do not depend on religious premises and do not make unscientific conclusions about the supernatural (discussed in Error #3)? Mr. Mooney is correct that sometimes ID proponents do discuss their own personal religious beliefs, but to claim that the personal theistic religious beliefs of ID proponents somehow disqualifies ID from being science is, as the amicus brief stated, both "bigoted as well as beside the point." But the fact remains that there are IDsympathizers who are not religious. A notable example is the famous atheist Antony Flew, who in 2004 announced that he had been persuaded by the empirical data supporting design. Although Flew continued to espouse no religious commitments after his intellectual shift, he stated "[i]t now seems to me that the findings of more than fifty years of DNA research have provided materials for a new and enormously powerful argument to design." 57 Mr. Mooney should reconsider his arguments for the sake of logical accuracy and decorum: religious beliefs of design proponents are irrelevant to the empirical validity or epistemological nature of design theory.

Mr. Mooney then cites to the "wedge document." A full response to the Forrestesque arguments Mr. Mooney recapitulates can be found at Discovery Institute's "The 'Wedge Document': 'So What'?" But there are a few points worth making in the meantime. First, motives have nothing to do with whether an idea is correct or whether it is scientific. As Discovery Institute's response asks, "so what?" So what if some members of the ID-movement have religious motives? Would this cause ID to shift from a scientific to a religious view? The answer should be no, unless Chris Mooney wishes evolution to be subject to attack: Many leading evolution-advocates have clearly stated anti-religious motives and beliefs: 59

• Eugenie Scott, executive director of the anti-ID activist group the National Center for Science Education

⁵⁵ Brief of Amici Curiae Biologists And Other Scientists In support of Defendants at 12-13, *Kitzmiller* (No. 4:04-cv-2688), *at* http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=558 (internal citations removed for clarity—see online version for internal citations).

⁵⁶ Chris Mooney & Matthew C. Nisbet, "Undoing Darwin," *Columbia Journalism Review*, (September / October, 2005) at http://www.cjr.org/issues/2005/5/mooney.asp (this article was the cover story of this issue).

⁵⁷ See biola.edu/antonyflew/page2.cfm

See The "Wedge Document": "So What"? at http://www.discovery.org/scripts/viewDB/filesDB-download.php?id=349

⁵⁹ Some of the material below was adapted from a forthcoming law review article co-authored by David K. DeWolf, Casey Luskin, and John West.

(NCSE), and called by *Nature* magazine "perhaps the nation's most high-profile Darwinist," is a "Notable Signer" of the "Humanist Manifesto III" which aspires to create a world with "a progressive philosophy of life ... without supernaturalism" because "[h]umans are ... the result of unguided evolutionary change. Humanists recognize nature as self-existing." ⁶¹

- Nobel Laureate Steven Weinberg, a public activist in favor of evolution education⁶² explains his scientific career is motivated by a desire to disprove religion⁶³ and hopes that science will help bring "priests and ministers and rabbis and ulamas and imams and bonzes and bodhisattvas ... to an end."⁶⁴
- Even Barbara Forrest herself is on the Board of Directors of the New Orleans Secular Humanist Association (NOSHA),⁶⁵ an affiliate of the American Humanist Association,⁶⁶ which publishes the Humanist Manifesto III.⁶⁷ In 1996, this American Humanist Association named the world's most famous evolutionary biologist, Richard Dawkins, as its "Humanist of the Year,"⁶⁸ where during his acceptance speech stated that "faith is one of the world's great evils, comparable to the smallpox virus but harder to eradicate."⁶⁹

The point is not that Eugenie Scott's, Barbara Forrest's, Steven Weinberg's or Richard Dawkins's scientific views are therefore disqualified, but simply to show that anyone can spin motive-mongering arguments if they want. Motives and personal religious beliefs are irrelevant, and claiming that religious (or anti-religious) motives disbar a theory from being scientific is not a valid form of argumentation, for an idea must be judged apart from the motivations or personal beliefs of its proponents. This was explained in the amicus brief:

The motivations and religious views of scientists have nothing to do with the scientific validity of their discoveries. For example, the eminent scientists Isaac Newton and Johannes Kepler were devoutly religious and believed God created a rationally comprehendable universe. Despite their religious motivations, their scientific investigations led to accurate explanations of motion which became the bedrock of physical mechanics. Amici thus assert that motivations for conducting scientific investigations have no bearing upon the empirical validity or scientific nature of the conclusions theirin. ... Amici detail these [anti-religious] affiliations [of ID-critics] not because religious (or anti-religious) beliefs are relevant to a scientific argument, but to demonstrate that the legal rule proposed by the plaintiffs would jeopardize the scientific contributions of many critics of intelligent design just as much as the contributions of some intelligent design proponents.⁷⁰

Mr. Mooney might have a point if ID had no scientific content. Scientific publications by ID proponents have already been addressed, where they make empirically based arguments to infer ID using scientific methodology. This is all that should count when assessing whether ID is science. But the fact is that the "wedge document" says that everything which is to be achieved should be based upon *scientific research*. Thus, Mr. Mooney conspicuously left out from his discussion that the "wedge document" sets as its primary five-year goal, "[t]o see intelligent design theory as an accepted alternative in the sciences and

⁶⁰ Geoff Brumfiel, "Who Has Designs on your Students' Minds?" *Nature* Vol 434:1065 (April 28. 2005).

⁶¹ Humanist Manifesto III Public Signers, americanhumanist.org/3/HMsigners.htm (last visited September 10, 2005); Humanism and its Aspirations, americanhumanist.org/3/HumandltsAspirations.htm (last visited September 10, 2005).

⁶² Dr. Weinberg testified in support of teaching only the evidence for evolution before the Texas State Board of Education. *See* Forrest Wilder, "Academics need to get more involved," Opinion, *The Daily Texan*, October 2, 2003.

dailytexanguline com/media/paper410/news/2003/10/02/Opinion/Academics Need To Get More Involved-510574 shti

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^{* &}quot;Free People from Superstition," ffrf.org/fttoday/2000/april2000/weinberg.html (last visited September 15, 2005).

⁶⁵ NOSHA Who's Who, nosha.secularhumanism.net/whoswho.html (last visited September 10, 2005).

<sup>70.

87</sup> See americanhumanist.org/3/HumandltsAspirations.htm (last visited September 10, 2005).

See thehumanist.org/humanist/articles/dawkins.html (last accessed Sept 10, 2005).

⁶⁹ *Id.*

⁷⁰ Brief of Amici Curiae Biologists And Other Scientists In support of Defendants at 12-13, *Kitzmiller* (No. 4:04-cv-2688), *at* http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=558 (internal citations removed for clarity—see online version for internal citations).

scientific research being done from the perspective of the theory," and as its primary twenty-year goal, "[t]o see intelligent design theory as the dominant perspective in science."⁷¹

Error #10: Mr. Mooney argues that Discovery Institute is "disingenuously pretending that modern science basically amounts to institutionalized atheism":

Mr. Mooney claims that Discovery Institute thinks that modern science is "institutionalized atheism." Mr. Mooney then cites to the theistic evolutionist Kenneth Miller to proclaim something like "See, evolution is God-friendly!" To be sure, religious persons can believe in evolution, and there are indeed Christians who accept Neo-Darwinism. I'll even recommend one: Terry Gray in the volume *Perspectives on an Evolving Creation* gives what I believe to be the most harmonious synthesis of Neo-Darwinism and traditional Christianity that I have yet seen. Clearly one does not have to be an atheist to accept evolution. But the religion-friendly picture of evolution painted by Mr. Mooney is very incomplete.

For example, consider Mr. Mooney's favorite example of Ken Miller. Miller's own textbooks have promoted descriptions of evolution which even Miller admits challenge theism, as four editions of Miller & Levine's *Biology* describe evolution as a purposeless, undirected process:

[E]volution works without either plan or purpose ... Evolution is random and undirected.72

At the *Kitzmiller* trial, Miller acknowledged that these words were unscientific, but claimed they were a "mistake" that existed only in the third edition of his textbook, which he immediately fixed.⁷³ But the facts reveal that these words existed in *all four* editions of his textbook.⁷⁴ Yet these are not even the most harshly anti-theistic language employed to describe evolution in Miller and Levine's popular high school biology textbooks. Miller's 1991 and 1994 editions of his *Biology: Discovering Life* state:

Darwin knew that accepting his theory required believing in philosophical materialism, the conviction that matter is the stuff of all existence and that all mental and spiritual phenomena are its by-products. Darwinian evolution was not only purposeless but also heartless—a process in which the rigors of nature ruthlessly eliminate the unfit. Suddenly, humanity was reduced to just one more species in a world that cared nothing for us. The great human mind was no more than a mass of evolving neurons. Worst of all, there was no divine plan to guide us.⁷⁵

Indeed, according to many popular biology texts used in the past 15 years, evolution is a "random," "blind," "uncaring," "heartless," "undirected," "purposeless," "chance" process that acts "without

⁷¹ See The "Wedge Document": "So What"? at http://www.discovery.org/scripts/viewDB/filesDB-download.php?id=349

⁷² Biology, by Kenneth R. Miller & Joseph S. Levine (1st ed., Prentice Hall, 1991), pg. 658; (3rd ed., Prentice Hall, 1995), pg. 658; [4th ed., Prentice Hall, 1998), pg. 658; emphasis in original.

⁷³ Transcript of Testimony of Kenneth Miller 4-8, *Kitzmiller et al. v. Dover Area School Board*, No. 4:04-CV-2688 (M.D. Pa., Sept. 27, 2005).

⁷⁴ See Biology, by Kenneth R. Miller & Joseph S. Levine (1^* ed., Prentice Hall, 1991), pg. 658; (2^m ed., Prentice Hall, 1995), pg. 658; (3^m ed., Prentice Hall, 1995), pg. 658; (4^m ed., Prentice Hall, 1998), pg. 658.

⁷⁴ Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., D.C. Heath and Co., 1992), pg. 152; (2st ed., D.C. Heath and Co., 1994), p. 161; emphases in original.

⁷⁵ Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1* ed., D.C. Heath and Co., 1992), pg. 152; (2nd ed., D.C. Heath and Co., 1994), p. 161; emphases in original.

⁷⁶ Biology, by Kenneth R. Miller & Joseph S. Levine (1^e ed., Prentice Hall, 1991), pg. 658; (3^e ed., Prentice Hall, 1995), pg. 658; (4^e ed., Prentice Hall, 1998), pg. 658; emphasis in original; *Biology* by Burton S. Guttman (1^e ed., McGraw Hill, 1999), pgs. 36-37;

⁷⁷ Evolutionary Biology, by Douglas J. Futuyma (1st ed., Sinauer Associates Inc., 1979), pg. 5; (2nd ed., Sinauer Associates Inc., 1985), pg. 2; (3rd ed., Sinauer Associates Inc., 1998), p. 5; Richard Dawkins quoted in *Biology* by Neil A. Campbell, Jane B. Reese. & Lawrence G. Mitchell (5* ed., Addison Wesley Longman, 1999), pgs. 412-413.

⁷⁸ Evolutionary Biology, by Douglas J. Futuyma (1st ed., Sinauer Associates Inc., 1979), pg. 5; (2nd ed., Sinauer Associates Inc., 1985), pg. 2; (3rd ed., Sinauer Associates Inc., 1998), p. 5.

⁷⁸ Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1* ed., D.C. Heath and Co., 1992), pg. 152; (2[∞] ed., D.C. Heath and Co., 1994), p. 161; emphases in original.

⁸⁰ Biology, by Kenneth R. Miller & Joseph S. Levine (1st ed., Prentice Hall, 1991), pg. 658; (3st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Evolutionary Biology, by Douglas J. Futuyma (1st ed., Sinauer Associates Inc., 1979), pg. 5; (2nd ed., Sinauer Associates Inc., 1985), pg. 2; (3rd ed., Sinauer Associates Inc., 1998), p. 5.

⁸¹ Biology, by Kenneth R. Miller & Joseph S. Levine (1st ed., Prentice Hall, 1991), pg. 658; (3st ed., Prentice Hall, 1995), pg. 658; (4st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis in original; Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1st ed., Prentice Hall, 1998), pg. 658; emphasis Prentice Hall, 1998; emphasis Prentice Hall, 1998; emphasis

plan" or "without any 'goals" and requires accepting "materialism" because we are "not created for any special purpose or as part of any universal design."85 While surely one can believe in evolution and God, the many theists who believe that some non-material personal God supervised or at points intervened in life's history would probably feel that these statements conflict with their religious beliefs. Perhaps the most interesting quote comes from Douglas Futuyma's widely used college text, Evolutionary Biology (which I used in college for an upper division evolutionary biology course):

By coupling undirected, purposeless variation to the blind, uncaring process of natural selection, Darwin made theological or spiritual explanations of the life processes superfluous. Together with Marx's materialistic theory of history and society and Freud's attribution of human behavior to influences over which we have little control, Darwin's theory of evolution was a crucial plank in the platform of mechanism and materialism — of much of science, in short — that has since been the stage of most Western thought.86

But it doesn't stop at textbooks. Some science faculty preach to their students that evolution conflicts with religion: In August, 2006, 49 science faculty at the University of Virginia (UVA) published a letter in UVA Magazine explaining to students and alumni that "[n]ot only does evolution clash with religious dogma, but it undermines the significance that some would like to give to the place of humans in the universe."87 In 2005, 39 Nobel Laureates wrote the Kansas State Board of Education to inform them that "evolution is understood to be the result of an unguided, unplanned process of random variation and natural selection."88 A survey of NAS scientists published in 1998 found "near universal rejection of the transcendent by NAS natural scientists." This was particularly acute among NAS biologists, where only 5.6% believed in God. The authors contrasted the statements of NAS booklets on science and creationism, and the realities of NAS membership:

The [NAS science and creationism] booklet assures readers, "Whether God exists or not is a question about which science is neutral." NAS President Bruce Alberts said: "There are many outstanding members of this academy who are religious people who believe in evolution, man of them biologists." Our survey suggests otherwise."

Yes, it is possible to believe in evolution and God, and perhaps Chris Mooney can find biologists who call themselves Christian theistic evolutionists. But Mr. Mooney paints those who claim there are anti-theistic implications in evolution as "disingenuous" when clearly the situation is much different than he lets on.

Error #11: Mr. Mooney appeals to authority as a valid argument against ID:

Mr. Mooney happily cites an AAAS resolution as evidence that ID is not science. He claims that "[i]n a 2002 resolution, the American Association for the Advancement of Science (AAAS) firmly stated that "to date, the ID movement has failed to offer credible scientific evidence to support their claim that ID undermines the current scientifically accepted theory of evolution." This AAAS edict proves the anti-ID ideological bias among some scientific organizations, recognized by Darwinist philosopher Michael Ruse:

ed., D.C. Heath and Co., 1992], pq. 152; (2rd ed., D.C. Heath and Co., 1994), p. 161; emphases in original; Evolutionary Biology, by Douglas J. Futuyma (1st ed., Sinauer Associates Inc., 1979), pg. 5; (2nd ed., Sinauer Associates Inc., 1985), pg. 2; (3rd ed., Sinauer Associates Inc., 1998), p. 5.

⁸² Biology by Burton S. Guttman (1st ed., McGraw Hill, 1999), pgs. 36-37.

Biology, by Kenneth R. Miller & Joseph S. Levine (1 de., Prentice Hall, 1991), pg. 658; (3 de., Prentice Hall, 1995), pg. 658; (4th ed., Prentice Hall, 1998), pg. 658; emphasis in original; Life: The Science of Biology by William K. Purves, David Sadava, Gordon H. Orians, & H. Craig Keller, [6th ed., Sinauer; W.H. Freeman and Co., 2001], pg. 3.

[®] Biology: Discovering Life by Joseph S. Levine & Kenneth R. Miller (1* ed., D.C. Heath and Co., 1992), pg. 152; (2[®] ed., D.C. Heath and Co., 1994), p. 161;; Evolutionary Biology, by Douglas J. Futuyma (1st ed., Sinauer Associates Inc., 1979), pg. 5; (2nd ed., Sinauer Associates Inc., 1985), pg. 2; (3rd ed., Sinauer Associates Inc., 1998), p. 5.

⁸⁵ HELENA CURTIS & N. SUE BARNES, INVITATION TO BIOLOGY 475 (3rd ed., Worth, 1981).

Futuyma, D. J., Evolutionary Biology, Sinauer Associates Inc., 1998, Sunderland, MA, p. 5.

⁸⁷ At http://www.uvamagazine.org/site/c.esJNK1PlJrH/b.1992471/k.C227/Letters.htm

The Elie Wiesel Foundation for Humanity: Nobel Laureates Initiative (September 9, 2005) at http://media.ljworld.com/pdf/2005/09/15/nobel_letter.pdf

Edward J. Larson & Larry Witham, "Leading scientists still reject God," Nature, Vol 394:313 (July 23, 1998).

Edward J. Larson & Larry Witham, "Scientists and Religion in America," 281 Scientific American (September, 1999):88-93; Edward J. Larson & Larry Witham, "Leading scientists still reject God," Nature, Vol 394:313 (July 23, 1998).

⁹¹ Edward J. Larson & Larry Witham, "Leading scientists still reject God," Nature, Vol 394:313 (July 23, 1998).

[ID] is opposed, often bitterly, by the scientific establishment. Journals such as Science and Nature would as soon publish an article using or favourable to Intelligent Design as they would an article favourable to phrenology or mesmerism – or, to use an analogy to the claims of the Mormons about Joseph Smith and the tablets of gold, or favourable to the scientific creationists' claims about the coexistence of humans and dinosaurs. Recently, indeed, the American Association for the Advancement of Science (the organization that publishes Science) has declared officially that in its opinion Intelligent Design is not so much bad science as no science at all and accordingly has no legitimate place in the science classrooms of the United States.²²

So the question has to be asked, is this opposition based upon careful scientific reasoning or political bias? There are no references to the scientific refutations of ID in the AAAS press release, nor is there a detailed quotation of intelligent design proponents or discussion of their arguments. Indeed, research revealed that the very AAAS resolution was passed by board members who had little-to-no knowledge of intelligent design. Perhaps, this is classic Kuhnian paradigm-shift opposition. To again quote Kuhn:

No part of the aim of normal science is to call forth new sorts of phenomena; in deed those that will not fit the box are often not seen at all. Nor do scientists normally aim to invent new theories, and they are often intolerant of those invented by others.⁹⁴

Mr. Mooney approvingly quotes Ken Miller stating that the rejection is based upon the evidence: "The scientific community has not embraced the explanation of design because it is quite clear, on the basis of the evidence, that it is wrong." But look at Mr. Mooney's chapter: he rejects ID because he claims it is just a negative argument against evolution which appeals to the supernatural. But as presented above (see Error #3), this is a straw-man characterization of the theory. Indeed, Ken Miller misconstrued ID precisely as such during the *Kitzmiller* trial in order to reject it before the Judge:

It is what a philosopher might call the argument from ignorance, which is to say that, because we don't understand something, we assume we never will, and therefore we can invoke a cause outside of nature, a supernatural creator or supernatural designer.⁹⁵

Given that Chris Mooney and Ken Miller have adopted (and then refuted) only false, straw-man versions of intelligent design (again, see Error #3), is it possible that other scientific opposition to intelligent design is based upon the same misunderstandings and mischaracterizations? The answer is clearly yes.

This precise straw-man version of intelligent design promoted by Mr. Mooney recently caused 49 University of Virginia (UVA) science faculty (mostly biologists) to write to that intelligent design says "gaps in scientific knowledge can be used to prove a supernatural and theological explanation." Both the positive argument for design, and the fact that ID limits its claims to that which can be established from the empirical data and thus does not make conclusions about the supernatural have already been discussed. How much opposition to ID is based upon misunderstandingss or misconstruals of the theory, now perpetuated by Mr. Mooney and Ken Miller? Why don't they critique the actual theory of intelligent design rather than create their own straw-man mischaracterizations of the theory?

Error #12: Mr. Mooney's misrepresents Stephen Meyer's peer-reviewed pro-ID science article:

Chris Mooney discusses disputes about the publication of Stephen Meyer's paper "The Origin of Biological Information and the Higher Taxonomic Categories," published in the mainstream biology journal, *Proceedings of the Biological Society of Washington*. Mr. Mooney insinuates that the journal editor, Dr. Richard Sternberg, may not have subjected the paper to peer-review despite the fact that it was clearly peer-reviewed.⁹⁷ It is incredible that Mr. Mooney would make Dr. Sternberg, who holds two Ph.D.s in

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⁹² Michael Ruse and William Dembski in General Introduction to Debating Design, pg. 3-4 (Cambridge University Press, 2004).

⁹³ See John G. West, "Intelligent Design is Based on Science, Not Religion," Dallas Morning News September 4, 2005.

³⁴ Thomas Kuhn, *The Structure of Scientific Revolutions*, pg. 24 (2[™] ed. Chicago, University of Chicago Press 1970).

⁵ Transcript of Testimony of Kenneth R. Miller 36, Kitzmiller, No. 4:04-CV-2688 [M.D. Pa., Sept. 26, 2005].

⁹⁶ Letters., at http://www.uvamagazine.org/site/c.esJNK1PlJrH/b.1992471/k.C227/Letters.htm

⁹⁷ See http://www.rsternberg.net/publication_details.htm#Process

evolutionary biology fields, look like the bad guy, given the retaliation Dr. Sternberg experienced after allowing the article to be published:98

Dr. Sternberg subsequently experienced retaliation by his co-workers and superiors at the Smithsonian, including transfer to a hostile supervisor, removal of his name placard from his door, deprivation of workspace, subjection to work requirements not imposed on others, restriction of specimen access, and loss of his keys. Smithsonian officials also tried to smear Dr. Sternberg's reputation and even investigated his religious and political affiliations in violation of his privacy and First Amendment rights. According to an investigation by the U.S. Office of Special Counsel (OSC), these efforts were aimed at creating hostile work environment... with the ultimate goal of forcing [Sternberg]... out of the [Smithsonian]. Furthermore, the OSC found that the pro-evolution NCSE helped devise the strategy to have Dr. Sternberg investigated and discredited. NCSE executive director Eugenie Scott later indicated to the Washington Post that Sternberg was lucky he was not fired outright: If this was a corporation, and an employee did something that really embarrassed the administration... how long do you think that person would be employed? Dr. Sternberg was singled out because he permitted an open discussion of a dissenting scientific viewpoint, despite the fact that he is neither a proponent of intelligent design nor a creationist.

Mr. Mooney then goes on to discuss a critique of Meyer's paper he was given by Derek Briggs, a "Yale University Cambrian expert":

After reviewing Meyer's paper at my request, Yale University Cambrian expert Derek Briggs, president of the Paleontological Society, responded by e-mail with what he termed the "obvious" criticism: "Meyer finds explanations for the appearance of evolutionary novelties inadequate . . . so he substitutes one of his own that is totally untestable, so-called intelligent design." Briggs's critique highlights a key reason that ID fails as science. By postulating a supernatural cause involved in the origin and history of life, the ID movement has advanced a mysterious idea that science lacks the tools to evaluate fruitfully.

Incredibly, Mr. Mooney's "expert" makes the same mistake many other scientists have made: they oppose ID because they think it's simply a "supernatural explanation." [See Error #11] But does Meyer's paper actually refer to the supernatural? The answer is no. Meyer writes that we infer an intelligent agency, because that is what our scientific, empirically-based experience is with:

[I]ntelligent human agents-in virtue of their rationality and consciousness-have demonstrated the power to produce information in the form of linear sequence-specific arrangements of characters. Indeed, experience affirms that information of this type routinely arises from the activity of intelligent agents. A computer user who traces the information on a screen back to its source invariably comes to a mind-that of a software engineer or programmer. The information in a book or inscriptions ultimately derives from a writer or scribe-from a mental, rather than a strictly material, cause. Our experience-based knowledge of information-flow confirms that systems with large amounts of specified complexity (especially codes and languages) invariably originate from an

** See rsternberg.net/ (last visited September 9, 2005). See also rsternberg.net/OSC_ltr.htm (last visited September 9, 2005).

The quote immediately following was taken from Brief of Amici Curiae Biologists And Other Scientists In support of Defendants at 12-13, *Kitzmiller* (No. 4:04-cv-2688), *at* http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=558 (internal citations removed for clarity—see online version for internal citations).

¹⁰⁰ Michael Powell, "Editor Explains Reasons for 'Intelligent Design' Article," *Washington Post*, August 19, 2005, A19, washingtonpost.com/wp-dyn/content/article/2005/08/18/AR2005081801680_3.html (last visited September 15, 2005).

See rsternberg.net/ [last visited September 9, 2005]. See also rsternberg.net/OSC_ltr.htm [last visited September 9, 2005].

Michael Powell, "Editor Explains Reasons for 'Intelligent Design' Article," *Washington Post*, August 19, 2005, A19, washingtonpost.com/wp-dyn/content/article/2005/08/18/AR2005081801680_3.html (last visited September 15, 2005).

¹⁰⁵ See Michael Powell, "Editor Explains Reasons for 'Intelligent Design' Article," Washington Post, August 19, 2005, A19, washingtonpost.com/wp-dyn/content/article/2005/08/18/AR2005081801680.html (last visited September 15, 2005).

intelligent source from a mind or personal agent. As Quastler (1964) put it, the "creation of new information is habitually associated with conscious activity" (p. 16). Experience teaches this obvious truth.¹⁰⁶

So the explanatory cause invoked by Meyer is not a "supernatural cause" but rather an "intelligent source" or a "mind"—explanatory causes which Meyer justifies based upon his uniformitarian reasoning of the empirically observed causal powers of intelligent agents. When we find large amounts of specified and complex information, we are justified in inferring an intelligent cause, because in our experience, such types of information come from intelligence. There is no unscientific appeal to the supernatural, but an observation-based argument which infers design based upon the observed cause-and-effect relationship between intelligence and specified complexity. Mr. Mooney's reason why "ID fails as a science" is based upon a straw-man characterization of the theory of intelligent design.

Thus when Mr. Mooney claims that Meyer's argument "doesn't explain anything or predict anything" or when another one of his "experts" asks "where are the data in support of their position?" or "[w]here is the fully developed positive case for the necessity of ID, backed by appropriate evidence, that one might expect? It is simply lacking," these are complete bluffs. Are these critics accurate to say that there is no positive case for ID when Meyer provides detailed explanations for the causal powers of intelligent agents? Meyer's article develops this predictive, positive, data-based case for intelligent design as follows:

- Our experience-based knowledge of information-flow confirms that systems with large amounts of specified complexity (especially codes and languages) invariably originate from an intelligent source from a mind or personal agent.¹⁰⁷
- For historical scientists, "the present is the key to the past" means that present experience-based knowledge of cause and effect relationships typically guides the assessment of the plausibility of proposed causes of past events. Yet it is precisely for this reason that current advocates of the design hypothesis want to reconsider design as an explanation for the origin of biological form and information. This review, and much of the literature it has surveyed, suggests that four of the most prominent models for explaining the origin of biological form fail to provide adequate causal explanations for the discontinuous increases of CSI that are required to produce novel morphologies. Yet, we have repeated experience of rational and conscious agents—in particular ourselves—generating or causing increases in complex specified information, both in the form of sequence-specific lines of code and in the form of hierarchically arranged systems of parts.¹⁰⁸
- What natural selection lacks, intelligent selection-purposive or goal-directed design-provides. Rational agents can arrange both matter and symbols with distant goals in mind. In using language, the human mind routinely "finds" or generates highly improbable linguistic sequences to convey an intended or preconceived idea. In the process of thought, functional objectives precede and constrain the selection of words, sounds and symbols to generate functional (and indeed meaningful) sequences from among a vast ensemble of meaningless alternative combinations of sound or symbol (Denton 1986:309-311). Similarly, the construction of complex technological objects and products, such as bridges, circuit boards, engines and software, result from the application of goal-directed constraints (Polanyi 1967, 1968). Indeed, in all functionally integrated complex systems where the cause is known by experience or observation, design engineers or other intelligent agents applied boundary constraints to limit possibilities in order to produce improbable forms, sequences or structures. Rational agents have repeatedly demonstrated the capacity to constrain the possible to actualize improbable but initially unrealized future functions. Repeated experience affirms that intelligent agents (minds) uniquely possess such causal powers. 108
- Intelligent agents have foresight. Such agents can select functional goals before they exist. They can devise or select material means to accomplish those ends from among an array of possibilities and

¹⁰⁸ Stephen C. Meyer, "The Origin of Biological Information and the Higher Taxonomic Categories," *Proceedings of the Biological Society of Washington*, 117(2):213-239 (2004).

¹⁰⁷ *Id.*

¹⁰⁸ ld.

¹⁰⁹ ld.

then actualize those goals in accord with a preconceived design plan or set of functional requirements. Rational agents can constrain combinatorial space with distant outcomes in mind. The causal powers that natural selection lacks-almost by definition-are associated with the attributes of consciousness and rationality-with purposive intelligence. Thus, by invoking design to explain the origin of new biological information, contemporary design theorists are not positing an arbitrary explanatory element unmotivated by a consideration of the evidence. Instead, they are positing an entity possessing precisely the attributes and causal powers that the phenomenon in question requires as a condition of its production and explanation.¹¹⁰

Mr. Mooney claims that "Meyer is willing to throw up his hands in bewilderment, and exclaim miraculous intervention of an intelligent designer," but clearly that is just not the case. Meyer's article provides detailed reasons for why various evolutionary models for the Cambrian explosion are deficient. Moreover, as documented, Meyer's article provides an extensive, plain, and lucid positive case for why we should infer design: in our experience, programming code and specified complexity comes from intelligence. When we find such a massive burst of such encoded information in the Cambrian explosion, we have justifiable reason to infer that intelligence was involved. This predictive model explains much data, in contrast to the traditional canons Neo-Darwinism, when it comes to the Cambrian explosion:

The most conspicuous event in metazoan evolution was the dramatic origin of major new structures and body plans documented by the Cambrian explosion. Until 530 million years ago, multicellular animals consisted primarily of simple, soft-bodied forms, most of which have been identified from the fossil record as cnidarians and sponges. Then, within less then 10 million years, almost all of the advanced phyla appeared, including echinoderms, chordates, annelids, brachiopods, molluscs and a host of arthropods. The extreme speed of anatomical change and adaptive radiation during this brief time period requires explanations that go beyond those proposed for the evolution of species within the modern biota.¹¹¹

This quote from evolutionary paleontologist Robert Carroll demonstrates that Meyer is not off-base to find that the Cambrian explosion challenges traditional Neo-Darwinian explanations. Mr. Mooney's criticisms of Meyer's paper are based upon misrepresenting the contents of Meyer's paper.

Error #13: Mr. Mooney claims the Kitzmiller v. Dover case is the "death knell" of ID:

Chris Mooney praises the *Kitzmiller* ruling because he believes it will lead to the "death knell of 'intelligent design." He believes that Judge Jones was correct to find that ID "appeal[s] to supernatural explanations" and because "its advocates do not (with rare exceptions) participate in the scientific process by publishing in peer-reviewed journals." Mr. Mooney even praises Judge Jones because "[h]e probed the religious motivations of the 'intelligent design' movement" (see Error #9). A full response to the *Kitzmiller* ruling may be found in David K. DeWolf, John West, Casey Luskin, and Jonathan Witt's book *Traipsing Into Evolution: Intelligent Design and the Kitzmiller v. Dover Ruling* (Discovery Institute Press, 2006). However, I will offer here a brief critique of why *Kitzmiller* is not the "death knell" of intelligent design:

The Kitzmiller ruling is not binding precedent upon any other court:

The *Kitzmiller* ruling will not be appealed to a higher court, and will remain a lower trial court ruling that is not binding precedent upon anyone outside of the parties directly involved in the *Kitzmiller* lawsuit.

The Kitzmiller ruling did not strike down the actual theory of intelligent design:

Like many of Chris Mooney's arguments, the *Kitzmiller* ruling was <u>predicated upon a false definition of intelligent design</u>. This is because, in large part, both Mr. Mooney and Judge Jones relied upon the misconstruals of ID given by ID-critics such as Ken Miller. The ruling asserted that ID "requires supernatural creation," ignoring testimony from pro-ID biologists that intelligent design does not require supernatural causation. Design theorists span a wide variety of religious viewpoints and the scientific theory of ID merely appeals to an intelligent cause, not a supernatural cause. The ruling ignored passages in Dover's pro-ID textbook which plainly explain this point:

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¹¹¹ Carroll R.L., "Towards a new evolutionary synthesis," *Trends in Ecology and Evolution*, Vol. 15, 2000, pp.27-32 (emphasis added).

[S]cientists from within Western culture failed to distinguish between intelligence, which can be recognized by uniform sensory experience, and the supernatural, which cannot. Today we recognize that appeals to intelligent design may be considered in science, as illustrated by current NASA search for extraterrestrial intelligence (SETI). Archaeology has pioneered the development of methods for distinguishing the effects of natural and intelligent causes. ... [I]f we go further, and conclude that the intelligence responsible for biological origins is outside the universe (supernatural) or within it, we do so without the help of science. ... All [ID] implies is that life had an intelligent source.

By misconstruing ID as a "supernatural" explanation, the ruling twisted ID into the definition of creation science previously given by the U.S. Supreme Court. Yet ID recognizes that science cannot study the supernatural and does not even violate "methodological naturalism," the controversial definition of science invoked by the ruling. In the ruling, ID could only be made to fit into the definition of creationism by being distorted to the point that it no longer represented the actual theory of intelligent design.

Mr. Mooney claims that "[w]hat [Judge] Jones found about the early drafts of Pandas absolutely devastates ID: In early versions, 'creation' had the same definition used in later drafts for 'intelligent design'; references to creationism in these earlier versions were then 'systematically replaced' with references to ID; and most importantly, these telltale changes came right after the *Edwards* ruling that put an end to 'creation science' as a political and legal strategy." But this is not an accurate history of intelligent design. To understand the origin of ID, we have to turn to Charles Thaxton, academic editor for the pro-ID textbook *Of Pandas and People* [*Pandas*] who explains how he coined the term when helping to write *Pandas*:

I wasn't comfortable with the typical vocabulary that for the most part creationists were using because it didn't express what I was trying to do. They were wanting to bring God into the discussion, and I was wanting to stay within the empirical domain and do what you can do legitimately there.¹¹³

Mr. Mooney leaves out the fact that pre-Edwards drafts of Pandas also contained the phrase "intelligent design," proving that the origin of intelligent design stemmed not from legal strategies but, as Thaxton explains, it came from an honest effort to limit statements to scientific claims that can be made based upon the empirical data. ID is about respecting the limits of the scientific data-not hiding religion for legal purposes. In other words, even in its pre-publication form Pandas offered a theory that was conceptually distinct from what the courts have defined as "creationism."

The early drafts of Pandas actually rejected "creationism" as defined by the courts. When certain prepublication drafts of Pandas used terms such as "creation" and "creationist," they used them in a way that rejected "creationism" as defined by the courts and popular culture. In Edwards v. Aguillard, the U.S. Supreme Court declared creationism to be a religious viewpoint because it required a "supernatural creator":

The legislative history therefore reveals that the term 'creation science,' as contemplated by the legislature that adopted this Act, embodies the religious belief that a **supernatural creator** was responsible for the creation of humankind.¹¹⁴

Thus, what the Supreme Court found was religion and therefore unconstitutional was not the word "creationism," but the teaching that a "supernatural creator" was responsible for life. "Creation science" was how the Louisiana Legislature described that religious concept.

Yet pre-publication drafts of *Pandas* juxtaposed the word "creation" with statements to the exact opposite effect, noting that science **cannot** scientifically detect a supernatural creator. Consider these important scans of pre-publication drafts of *Pandas*, making it clear that from the beginning, their project did **not** advocate what the courts have defined as "creationism":

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¹¹² *Of Pandas and People*, 2rd ed., pg. 126-127, 161 (emphasis added).

¹¹³ Deposition of Charles Thaxton 52-53, Kitzmiller, No. 4:04-CV-2688 (M.D. Pa., July 19, 2005).

¹¹⁴ Edwards v. Aguillard, 482 U.S. 578, 591-592 (emphasis added).

But is this not merely the design (or "clockmaker") argument of William Paley which long ago was abandoned by scientists?

There are two important differences. First, Paley's argument was to extrapolate to the supernatural from the "clock." The problem was that biology provided no examples of the supernatural manipulating the material, and thus there was no basis in uniform experience for going from nature to the supernatural, for inferring an unobserved supernatural cause from an observed effect.

The second difference is that unlike Paley's day, we have the scientific tools and terminology to distinguish between order and information, and to quantify the latter whether encountered on the pages of a book, in the face of a mountain, or in biology. Thus from the observation that human intelligences can communicate by manipulating sequences of alphabetic letters, creationists infer that a similar kind of intelligence was responsible for the message sequences of nucleotide letters in DNA. Some master intellect is the creator of life. But such observable instances of information cannot tell us if the intellect behind them is natural or supernatural. This is not a question that science can answer.

The point of clarification to be made is this. We can know from uniform sensory experience, and thus from science, about the material world. But there are two things about which we cannot learn through uniform sensory experience. One is the supernatural, and so to teach it in science classes would be out of place. The other thing we cannot learn through uniform sensory experience is that there is no supernatural, i.e., that natural causes identified through sensory experience exhaust reality. We cannot detect evidence for philosophical naturalism. To teach either of these two—even by the presumption of excluding the other—is to yield the classroom to apologetics, either the apologetics or theism of the apologetics of philosophical naturalism. Thus science can identify an intellect, but is powerless to tell us if that intellect is within the universe or beyond it.

In each of these scans from pre-Edwards v. Aguillard drafts of Pandas, it is clear that the idea of "creation" discussed was specifically NOT trying to postulate a supernatural creator. The concepts advanced by even pre-publication, pre-Edwards drafts of Pandas were sharply different from what the courts have defined as "creationism." These early drafts were not trying to study the supernatural.

ID was formulated in its present form-an empirically based argument that would not stray into the supernatural-before the *Edwards* case was decided. Thus, even before *Edwards v. Aguillard*, ID lacked the very quality that caused creationism to be declared unconstitutional: it did not postulate a "supernatural creator." ID simply is not creationism re-packaged, for it never resembled traditional creationism in the manner which caused it to be struck down as unconstitutional by the Supreme Court. **ID was not formulated as a legal strategy to avoid a court ruling, but formulated by a scientist who understood information theory and "want[ed] to stay within the empirical domain and do what you can do legitimately there."**

The Kitzmiller ruling used false evidence to claim that ID is not science:

The *Kitzmiller* ruling falsely asserted that ID "has not generated peer-reviewed publications" and has not "been the subject of testing and research." Yet the court was presented with evidence of such peer reviewed publications, published by ID proponents in mainstream scientific publications supporting core claims of ID. Biologist Scott Minnich also presented slides of <u>his own laboratory experiments testing</u> (and supporting) irreducible complexity for the bacterial flagellum. Yet the ruling ignored all this evidence.

Judicial Overreach Diminishes the Credibility of the Kitzmiller Ruling:

The *Kitzmiller* ruling overstepped its bounds by violating a cardinal rule: never declare a religious belief "false." (The ruling inappropriately held it is "utterly false" for a religious person to believe evolution "is antithetical to a belief in the existence of a supreme being.") The court inappropriately invaded other territories of law by attempting to define science (when even philosophers have no consensus on the definition of science) and unnecessarily ruling on scientific debates outside its expertise and irrelevant to the determination of whether ID is science.

One Court's Opinion Does Not Negate the Evidence for Design from the Biological Data:

Living cells still contain digital code and microbiological machines that provide evidence for design. This debate will be settled by scientists who give design a fair hearing, not by courts. An educator choosing to teach ID for the right reasons—to improve science instruction—might still legally teach about ID.

Error #14: An Error of Omission—Mr. Mooney ignores the <u>real "war"</u>—the attack upon the academic freedom of scientists who support intelligent design in science and the media:

We've been careful to make sure people aren't going into the classroom saying, you've gotta' think about "intelligent design."

—Head of the Microbiology, Molecular Biology and Biochemistry Department at the University of Idaho, where pro-ID microbiologist Scott Minnich is a faculty member¹¹⁵

Mr. Mooney writes that intelligent design is part of a "war on science." But when it comes to conflicts within the scientific community, the real "war" is the attack upon the academic freedom of scientists who investigate, discuss, or merely support or "think about" intelligent design. As documented in Errors # 3 and 12, intelligent design is an empirically-based theory which is not "faith-based" and does not appeal to the supernatural. Yet, as documented in Errors # 11 and 12, there is a harsh anti-ID ideological bias in the academy which has resulted in the persecution of pro-ID scientists and scholars. This section will document how these are not isolated incidents but part of a widespread pattern of persecution, harassment, and singling out of pro-ID scientists and scholars to intimidate them, harm their careers, and inhibit their academic freedom. This assault upon academic freedom of scientists who support intelligent

¹¹⁵ "Drawing a Line in the Academic Sand," Inside Higher Education, (October, 6, 2005) at http://www.insidehighered.com/news/2005/10/06/idaho

design is an attack upon the very values of free inquiry which science—and America's democracy—were founded upon. This is the real "war," one worth talking about, and one which Mr. Mooney conspicuously omits from his book.

Attacks upon the freedom to investigate intelligent design

Leading evolution activists have already begun to admit that they feel it is inappropriate to graduate students who support intelligent design. As noted in Error #12, a government investigation found that the pro-Darwin-only activist group, the National Center for Science Education (NCSE), was involved in helping to formulate a strategy to have Dr. Richard Sternberg "investigated and discredited" fafter he oversaw the publication of a pro-ID science article in a biology journal. Speaking to an audience at the New York Academy of Sciences, NCSE staff member Glenn Branch was later reported explaining that under certain circumstances, biology departments are under "no ethical requirement" to graduate students who are "creationist[s]":

Branch's final topic was how to handle a situation where a biology department winds up with a creationist as a graduate student. This was both of general interest, as creationists tend to use their degrees as rhetorical weapons ... Unfortunately, his conclusion was that there are no easy answers. He did, however, note that graduate departments exist to serve the scientific community by providing qualified individuals to perform research and teaching services. There is no ethical requirement for graduate faculty to be complicit in the training of someone who is ultimately going to actively harm the field.¹¹⁷

While it may seem innocuous to say that one does not deserve a degree if they will "harm the field," how would Mr. Branch define "harm[ing] the field?" Would he believe that merely holding views which dissent from evolution cause "harm"? What about if a student speaks about his views publicly or advocates for changes in education policy? Surely pro-evolution graduate students hold the right to speak publicly about their scientific views. Are these courtesies extended to skeptics of Neo-Darwinism? What Mr. Branch may define as "harm" might simply be a scientist contending against a popular theory using normal methods of discourse and free speech extended to those who defend the Neo-Darwinian paradigm.

It seems that three faculty members at Ohio State University (OSU) took Mr. Branch's advice in attacking an OSU graduate student named Bryan Leonard. While there were other disputes over his thesis (the "procedural technicalities" discussed below), Leonard was also accused of committing a thought crime: not only did he publicly dissent from evolution, he made the teaching of scientific problems with evolution part of his doctoral thesis. This was called "unethical" by some faculty. The plight of Bryan Leonard was described by biologist Jonathan Wells in his book, *The Politically Incorrect Guide to Darwinism and Intelligent Design*.

Although Leonard had gone through normal procedures and received proper approval to conduct research, OSU professors Brian McEnnis, Steve Rissing, and Jeffrey McKee accused Leonard of "unethical" conduct, primarily on the grounds that his research was predicated on "a fundamental flaw: there was no valid scientific data challenging macroevolution." So Leonard's research (they claimed) involved "deliberate miseducation of these students, a practice we regard as unethical." The OSU Darwinists then invoked some procedural technicalities—widely ignored in the case of other Ph.D. candidates—to demand that Leonard's dissertation defense be postponed. McKee subsequently compared two biologists who were members of Leonard's dissertation committee to "parasitic ticks hiding in the university's scalp." McKee wrote that he had learned as a boy "to twist the ticks when taking them out, so their heads don't get embedded in the skin. Others prefer burning them off. What fate awaits OSU's ticks remains to be seen."

According to the Darwinists who attacked Leonard, it is "unethical" and "deliberate miseducation" to hold a view which differs from their own. This is an affront to academic freedom and freedom of inquiry.

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¹¹⁷ See John Timmer reporting in Arming Teachers to Teach Evolution Part II at http://arstechnica.com/journals/science.ars/2006/4/25/3741

¹¹⁸ Jonathan Wells, *The Politically Incorrect Guide to Darwinism and Intelligent Design*, pgs. 189-190 (Regnery, 2006).

Some Darwinists have prevented the publication of pro-ID research without the animus expressed by the OSU Darwinists. Nonetheless, it is clear that the political climate makes it impossible for some reasonable journal editors to allow pro-ID material to be published. Pro-ID biochemist Michael Behe submitted an article to a science journal as a scientific defense of intelligent design. The editor of the journal "specifically apologized to Behe for being unable to publish his article because it was not 'orthodox:"

I'm torn by your request to submit a (thoughtful) response to critics of your non-evolutionary theory for the origin of complexity. On the one hand I am painfully aware of the close-mindedness of the scientific community to non-orthodoxy, and I think it is counterproductive. But on the other hand we have fixed page limits for each month's issue, and there are many more good submissions than we can accept. So, your unorthodox theory would have to displace something that would be extending the current paradigm... You are in for some tough sledding.¹²⁰

Unlike Bryan Leonard, Behe's future career may not be at risk. Nonetheless, this response from this anonymous journal editor reveals an incredible bias on the part of the science establishment, which refuses to publish legitimate ID research on irreducible complexity because it isn't "orthodox." This glimpse into the mindset of an otherwise empathetic journal editor reveals the accepted and entrenched systematic bias against the freedom to investigate ID, and to publish pro-ID viewpoints in academia.

Attacks upon the academic freedom to discuss intelligent design

Jonathan Wells explains that Paul Z. Myers, a biologist at the University of Minnesota, Morris, on his blog—the most popular science blog on the internet¹²¹—"recommends 'the public firing of and humiliation' of teachers who dare to speak approvingly about intelligent design." The AAAS resolution against ID (previously discussed in Error #11) concludes with an explicit call for censorship of ID from the science classroom: "AAAS calls upon its members to assist those engaged in overseeing science education policy to understand ... the inappropriateness of 'intelligent design theory' as subject matter for science education." An alternative option is expressed by Bruce Alberts, president of the National Academy of Sciences, who wrote in the journal *Cell* that intelligent design should be discussed in science classes "but not as the alternative to Darwinism that its advocates demand." Rather Alberts hopes it will be taught only in an unfavorable fashion, "through the careful analysis of why intelligent design is not science." These calls from the highest scientific authorities in the United States to censor a positive portrayal of intelligent design have had a visibly profound effect upon the academic freedom of scientists discussing the minority theory of ID in the science classroom.

Some academics are answering these calls. During the *Kitzmiller* trial, *Inside Higher Education* ran an article entitled, "A Call to Action Against Intelligent Design" noting that "Cornell University's interim president, Hunter R. Rawlings III, used his 'state of the university' address ... to denounce 'intelligent design,'

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David K. DeWolf, John West, Casey Luskin, and Jonathan Witt's book *Traipsing Into Evolution: Intelligent Design and the Kitzmiller v. Dover Ruling* 47 (Discovery Institute Press, 2006).

Michael J. Behe, Correspondence With Science Journals: Response to Critics Concerning Peer Review, at http://www.discovery.org/scripts/viewDB/index.php?command=view&id=450 (last visited Jan. 30, 2006) (emphasis added) (quoting an unnamed editor of a mainstream scientific journal regarding why the editor would not publish Behe's paper defending irreducible complexity of the blood clotting cascade).

¹²¹ See "Top five science blogs," Nature, (July 5, 2006), http://www.nature.com/news/2006/060703/full/442009a.html ¹²² As discussed and quoted in Jonathan Wells, *The Politically Incorrect Guide to Darwinism and Intelligent Design*, pgs. 190 [Regnery, 2006].

¹²³ AAAS News Archives, "AAAS Board Resolution on Intelligent Design Theory," aaas.org/news/releases/2002/1106id2.shtml

Bruce Alberts, "A Wakeup Call for Science Faculty," Cell, 123:739-741, Dec. 2, 2005. www.download.cell.com/pdfs/0092-8674/PIIS0092867405011827.pdf. It should be noted that contrary to what Dr. Alberts suggests, leading pro-ID organizations such as the Discovery Institute do not "demand" that intelligent design be required in schools, but merely think that teachers should have the freedom to discuss the theory if they choose to do so at their own discretion. "As a matter of public policy, Discovery Institute opposes any effort to require the teaching of intelligent design by school districts or state boards of education." See Discovery Institute's Science Education Policy at

http://www.discovery.org/scripts/viewDB/index.php?command=view&id=3164&program=CSC%20-%20Science%20and%20Education%20Policy%20-%20School%20District%20Policy%20-%20MainPage 125 Id.

arguing that it has no place in science classrooms and calling on faculty members in a range of disciplines to engage in public discussions about why the anti-evolutionary theory is both popular and wrong."¹²⁶ Cornell students stood up against their president, as Cornell's "Intelligent Design and Evolution Awareness" (IDEA) Club issued a press release noting that, "[i]n a speech usually reserved for current university business, he spent over two thirds of his time blasting the emerging Intelligent Design theory as anti-scientific and religious in an unscrupulous, unknowledgeable manner." The vice-president of the club recognized the censorship advocated by Rawlings:

Rachel Staver, vice president of the group and a nutrition major at Cornell, said ... "It's very hard to get new ideas introduced into science because of the strength of scientific dogma and orthodoxy," ... Staver called Rawlings's criticism of intelligent design censorship, adding that if science professors "were really confident of evolution," they would accept the teaching of intelligent design as an alternate theory. 127

This story has a happy ending: thanks in part to the support of the students, in the summer of 2006, Cornell offered science course by some anti-ID professors discussing intelligent design. But the sting of the official administrative call for censorship of ID remained.

Other stories do not have such a happy ending. Scott Minnich, a microbiology professor at the University of Idaho, agreed to testify as an expert witness in support of intelligent design at the *Kitzmiller* trial. Coincidentally, just a few weeks before Minnich was scheduled to testify, the President of the University of Idaho (UI) announced that an evolution-only speech-code would be emplaced into UI science classrooms:

At the University of Idaho, teaching of views that differ from evolution may occur in faculty-approved curricula in religion, sociology, philosophy, political science or similar courses. However, teaching of such views is inappropriate in our life, earth, and physical science courses or curricula.¹²⁸

Ironically, one faculty member admitted that Minnich had not even "crossed that line" to teach his students about intelligent design. The school denied that this statement had anything to do with Minnich. But subsequently, NCSE executive director Eugenie Scott was invited to speak on the campus by science faculty. She singled out Minnich before a large audience at her lecture titled "Why Scientists Reject Intelligent Design," stating "the elephant in the living room is: there is a proponent of intelligent design on the faculty of the University of Idaho," Does it bother Eugenie Scott that "there is a proponent of intelligent design on the faculty of the University of Idaho"? When the science faculty invite a leading political activist to single out a colleague after the university president issued an edict against teaching that colleague's views, Minnich is clearly an "elephant" in an extremely hostile environment.

In an extreme example which should give the reader pause, one professor claims to have lost her job because she violated an apparently unwritten anti-ID speech-code at George Mason University. Caroline Crocker, a former biology professor at George Mason University, was not offered a contract renewal after she mentioned intelligent design in one of her classes. An article in the *Washington Post* documents Crocker's experience:

"I lost my job at George Mason University for teaching the problems with evolution," said Crocker, a charge that the university denies. "Lots of scientists question evolution, but they would lose their jobs if they spoke out."

[....]

¹²⁶ Scott Jaschik, "A Call to Action Against Intelligent Design," Inside Higher Education, October 24, 2005 at http://www.insidehighered.com/news/2005/10/24/id

Letter to the University of Idaho Faculty, Staff and Students, October 4, 2005, http://www.president.uidaho.edu/default.aspx?pid=85947

This was admitted by a University of Idaho administrator to a reporter in "Ul's White: Intelligent design not fit for class; Group says White likely is first university president to take public stand on issue," from the Moscow, ID Daily News. See the quote at "AP Breaks Story on Academic Freedom Under Attack at U of Idaho," at

http://www.evolutionnews.org/2005/10/ap_breaks_story_on_academic_freedom_unde.html

[&]quot;U's White: Intelligent design not fit for class; Group says White likely is first university president to take public stand on issue," from the Moscow, ID Daily News. See the quote at "AP Breaks Story on Academic Freedom Under Attack at U of Idaho," at http://www.evolutionnews.org/2005/10/ap_breaks_story_on_academic_freedom_unde.html

But Crocker was reluctant to say much more. In fact, she seemed reluctant to be speaking to a reporter at all. She asked if I had seen the e-mail she had sent me the previous day; I had not. In it, she described the attacks targeted at her career as a result of her views on evolution. Losing the faculty position at GMU had left Crocker worried about how she could support a son at school in England. Family members were asking why she was sticking her neck out. Crocker and her husband, Richard, who is associate rector at Truro, believe she has become the victim of scientific authoritarianism. It is one thing to believe his wife is wrong, Richard Crocker told me, and quite another to deprive her of her right to speak. 131

Regardless of the fact that a university spokesperson claims Crocker "was let go at the end of her contract period for reasons unrelated to her views on intelligent design," 132 he nonetheless concedes that Crocker did not have the "academic freedom" to talk about intelligent design in a biology class:

But teachers also have a responsibility to stick to subjects they were hired to teach, he added, and intelligent design belonged in a religion class, not biology. Does academic freedom "literally give you the right to talk about anything, whether it has anything to do with the subject matter or not? The answer is no."1133

After hearing about this unwritten academic speech-code, the reporter also queried students about whether these events caused students to fear retaliation for their views about intelligent design. The results were telling:

I went up to this last student after the class. She initially agreed to be identified, but moments later, remembering what Crocker had said about the scientific establishment's intolerance of dissent, she begged me not to publish her name. The fear on her face was palpable. She wanted to be a veterinarian and was convinced that dream would be smashed if powerful scientists learned she had dared to auestion evolution.

[...]

"She is really brave for it, but I felt bad that her contract wasn't renewed," said Irene Fanous Kamel, a student who took Crocker's class at GMU and whose orthodox Coptic Christian family hails from Egypt. Kamel, who recently presented her own sympathetic views on intelligent design at a seminar, said she heard exasperated sighs from professors. In private, however, many students said they agreed with her. Kamel said she "would be very surprised to find another teacher talk about ID in class, unless they have tenure. It's not welcome." 1134

The article came to the unmistakable conclusion that discrimination against pro-ID scientists has changed the behavior of pro-ID faculty:

An unintended consequence of the scientific establishment's exasperation with evolution's critics is that supporters of intelligent design such as Crocker and Kamel are increasingly limiting their conversations to fellow sympathizers. Among themselves, these advocates believe the wheel has turned full circle: If Galileo and Copernicus were the scientific rebels who were once punished by the dogma and authority of the church, these advocates now believe that they are being punished by the dogma and authority of science.

"Just like they say you can't discriminate against black people, or against gays, maybe they will say you can't discriminate against Darwin-doubters," Crocker told me. 135

In an article debating Crocker's plight in Nature, Barbara Forrest was asked if intelligent design could be presented in science classes. Forrest told Nature, "This is not a question of academic freedom, this is a question of professional competence."136 In other words, academic freedom does not exist for those who support intelligent design. In Forrest's eyes, rejection of intelligent design seems to have become a litmus

¹³¹ Shankar Vedantam, "Eden and Evolution," Washington Post, Sunday, February 5, 2006; W08, available at http://www.washingtonpost.com/wp-dyn/content/article/2006/02/03/AR2006020300822_pf.html ¹³² *Id.*

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁶ Geoff Brumfiel, "Cast Out From Class" *Nature* Vol 434:1064 (April 28, 2005).

test for professional competence. When faculty feel that those who disagree with them should be censored, contrary to what Forrest claims, this is indeed "a question of academic freedom."

Paul Z. Myers seems to agree with Forrest: when commenting on Crocker's situation on his popular blog, Myers wrote, "Heck yeah—Caroline Crocker should have been fired." 137

Attacks upon the academic freedom to merely support intelligent design:

The attack upon the career of Dr. Richard Sternberg after he oversaw the publication of a pro-ID science article has already been documented (see Error #9). But Darwinists did not target Sternberg for attack until after he committed his thought crime. An article by Barbara Forrest and Glenn Branch, "Wedging Creationism into the Academy," reads like a blacklist of would-be targets who are pro-ID scientists. For no apparent reason other than dropping names, the article, published in early 2005 in *Academe*, a publication of the American Association of University Professors, proceeds to list the names and academic affiliations of many scientists and other scholars who are affiliated with the Discovery Institute. One of the names listed by the article is Guillermo Gonzalez, a mild-mannered astronomer at lowa State University, who later that very year became such a target of intimidation: 139

Another target of intimidation is Guillermo Gonzalez, an astronomer at lowa State University (ISU). In a recent book, Dr. Gonzalez postulated that the laws of the universe were intelligently designed to permit the existence of advanced forms of life.140 Some of Dr. Gonzalez's astronomical work fundamental to his design hypotheses appeared on the cover of Scientific American. 141 In retaliation against Dr. Gonzalez's application of design to astronomy, his opponents at ISU circulated a petition signed by over 120 faculty members "denouncing 'intelligent design...'" The leader of the intimidation campaign—also faculty adviser for the ISU Atheist and Agnostic Society 143—accused Gonzalez of having a hidden religious agenda. Others similarly "charged him with forcing his scientific evidence into a religious prism, fingering him as an academic fraud."144 Thus the thesis of "religious and cultural agenda"—the Trojan Horse stereotype—has spurred efforts to impede scientific research. Like Sternberg, Gonzalez's attempts to focus on science have been futile: "I don't bring God into science. I've looked out at nature and discovered this pattern, based on empirical evidence." After initiating the campaign of harassment, Gonzalez's chief accuser castigated Gonzalez for declining to appear at a "forum" sponsored by critics determined to denounce intelligent design. Since he is coming up for tenure in the near future, Gonzalez is especially vulnerable to this effort to create a hostile work environment.

And there are other victims, one of which was directly attacked by Barbara Forrest:147

¹⁸⁷ http://scienceblogs.com/pharyngula/2006/02/heck_yeahcaroline_crocker_shou.php

¹³⁸ Barbara Forrest and Glenn Branch, "Wedging Creationism into the Academy," *Academe* (January-February, 2005) at http://www.aaup.org/publications/Academe/2005/05if/05ifforr.htm

¹⁵⁸ The following quote is from Brief of Amici Curiae Biologists And Other Scientists In support of Defendants at 12-13, *Kitzmiller* (No. 4:04-cv-2688), *at* http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=558
140 See Guillermo Gonzalez and Jay W. Richards, *The Privileged Planet: How Our Place in the Cosmos is Designed for Discovery*

[[]Regnery Publishing, 2004].

141 Guillermo Gonzalez, Donald Brownlee, Peter D. Ward, "Refuges for Life in a Hostile Universe," *Scientific American*, October,

¹⁴² Jamie Schuman, "120 Professors at Iowa State U. Sign Statement Criticizing Intelligent-Design Theory," *Chronicle of Higher Education*, August 26, 2005, chronicle.com/temp/email.php?id=7d6oum55u2gs4xgz0zoqckkx4ulkgoy6 (last visited

September 9, 2005). ¹⁴³ *Id.*

Reid Forgrave, "Life: A universal debate," *Des Moines Register*, August 31, 2005, dmregister.com/apps/pbcs.dll/article?AID=/20050831/LIFE/%20508310325/1001/LIFE (last visited September 12, 2005).

Lisa Livermore, "Intelligent design' faces ISU opposition," *Des Moines Register*, August 26, 2005, desmoinesregister.com/apps/pbcs.dll/article?AID=/20050826/NEWS02/508260394/1001 (last visited September 9, 2005).

The following quote is from Brief of Amici Curiae Biologists And Other Scientists In support of Defendants at 12-13, *Kitzmiller* [No. 4:04-cv-2688], *at* http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=558

Leading design theorist Dr. William Dembski was banned from teaching at Baylor University and forced into a "five-year sabbatical." This followed after Barbara Forrest wrote letters to dissuade scholars from associating with Dembski's Polanyi Center at Baylor because it was "the most recent offspring of the creationist movement." 49

There are many similar stories demonstrating that the academy is a dangerous place to question evolution. Dr. Nancy Bryson was removed, without explanation, from her position as head of the Division of Science and Mathematics at Mississippi University for Women the very day after she taught an honors seminar entitled "Critical Thinking on Evolution." In late 2005, then-chair of the University of Kansas Religious Studies Department Paul Mirecki planned to teach an anti-ID course entitled, "Special Topics in Religion: Intelligent Design and Creationism." Mirecki publicly told the press, "[t]he educational system of Kansas is under attack" and said about proponents of intelligent design that "[a] Il they are is oppressors ... It hey don't want their beliefs to be analyzed rationally. That's what this class is devised to do." 151 But privately, Mirecki expressed different motives for the course. Subsequent e-mails from Mirecki to a listserve of the Society of Open-Minded Atheists and Agnostics at the University of Kansas, 152 for which Mirecki was faculty advisor, 153 revealed Mirecki's true motives and prejudices: "The fundies want [intelligent design] all taught in a science class, but this will be a nice slap in their big fat face by teaching it as a religious studies class under the category 'mythology'."154 Another e-mail from Mirecki agreed to a description of Pope John Paul II as "a corpse in a funny hat wearing a dress." Clearly Mirecki thinks intelligent design should be taught in religion courses to offending supporters of ID. For such intolerant Darwinists, it's OK to bash ID, especially in a religion course, but imagine how department chairs such as Mirecki would treat design-proponents if they favorably mentioned ID in his department, or in a science classroom?

The evidence is there: Darwinists state that proponents of ID do not deserve academic freedom to talk about ID favorably in science courses. These censors put their views into practice by instituting speechcodes and practicing (then typically denying) persecution or outright harassment of ID-proponents. This evidence demonstrates that the academy is an unfairly hostile environment for design proponents. This attack upon academic freedom, freedom of inquiry, and the very careers of pro-ID scientists and other scholars presents a far graver and more dangerous "war" than Chris Mooney's misplaced "war" that he claims intelligent design is waging against science. Why was the real "war" against the academic freedom of ID-proponents omitted from Mr. Mooney's book? This question will be addressed below.

Attacks Against Intellectual Freedom for Intelligent Design in the Media

In early September, 2005, just as Kitzmiller v. Dover case was approaching, Columbia Journalism Review published on the cover "Undoing Darwin," which recommended nothing short of imbalanced and overall hostile coverage of the pro-ID viewpoint during the forthcoming media coverage of the Kitzmiller v. Dover case. This incredible article presented a call for journalists to become partisans in the debate over evolution and exclude a balanced or fair presentation of pro-ID arguments. It was co-authored by none other than Chris Mooney.

148 Barbara Forrest, Letter to Simon Blackburn, designinference.com/documents/2005.05.ID_at_Baylor.htm (last visited September 9, 2005).

http://www2.ljworld.com/news/2005/nov/22/ku_class_angers_design_advocates/?ku_news

¹⁴⁸ /d.

[🐃] Transcript of Proceedings before Kansas State Board of Education, ksde.org/outcomes/schearing05072005am.pdf (last visited September 15, 2005).

¹⁵¹ Sophia Manies, "KU class angers 'design' advocates," November 22, 2005 at

[🗠] Scott Jaschik, "E-mail Kills a Course," *Inside Higher Education*, http://insidehighered.com/news/2005/12/02/kansas

¹⁵³ Chris Moon, "Religion e-mails called 'vicious'," The Capital-Journal, December 1, 2005.

¹⁵⁴ David Klepper, "KU Cancels intelligent design class," *The Kansas City Star*, December 1, 2005, at

http://www.kansascity.com/mld/kansascity/13303968.htm
¹⁵⁵ Chris Moon, "Religion e-mails called 'vicious'," The Capital-Journal, December 1, 2005. Mirecki later claimed he was assaulted. ID-proponents immediately denounced the use of violence against anyone. See Rob Crowther, "Violence Is Never The Answer In Intellectual Debate," at http://www.evolutionnews.org/2005/12/violence_is_never_the_answer.html

¹⁵⁶ Chris Mooney & Matthew C. Nisbet, "Undoing Darwin," Columbia Journalism Review, (September / October, 2005) at http://www.cjr.org/issues/2005/5/mooney.asp [this article was the cover story of this issue].

The article began by complaining that the media "tend to deemphasize the strong scientific case in favor of evolution and instead lend credence to the notion that a growing 'controversy' exists over evolutionary science."157 The fundamental premise of the entire article is that "it is false"158 to claim there are scientific disputes against evolution. Again making misplaced reliance upon authoritarian political statements by scientific authorities (see Error #11), Mr. Mooney begins with the assumption that his position is correct, and that this fact should therefore define and govern journalistic coverage of this issue. He assumes that all critiques of evolution are "theological attacks that masquerade as being 'scientific' in nature" and encourages journalists to frame articles as such, to avoid lending "undue credibility" to non-evolutionary viewpoints. 159 This is the same mindset we saw coming from those who attack ID-proponents in the academy: intelligent design is not just wrong, but ID-proponents do not deserve the opportunity to discuss their scientific views in a positive light.

Mr. Mooney complains that simply giving "balance" to the viewpoints in articles over intelligent design does a disservice:

Worse, they [journalists] often provide a springboard for anti-evolutionist criticism of that science, allotting ample quotes and sound bites to Darwin's critics in a quest to achieve "balance." The science is only further distorted on the opinion pages of local newspapers. 160

In other words, the fact that reporting is sometimes "balanced" is a problem: Mr. Mooney's message is that media coverage is not "balance[d]" when one allows dissenters from evolution have their say by allowing the "pairing of competing claims":

Even worse, such "balance" is far from truly objective. The pairing of competing claims plays directly into the hands of intelligent-design proponents who have cleverly argued that they're mounting a scientific attack on evolution rather than a religiously driven one, and who paint themselves as maverick outsiders warring against a dogmatic scientific establishment. 161

Mr. Mooney thus suggests that it is inappropriate to "pai[r] claims" of ID proponents and evolutionists because it will make ID arguments appear scientific. To his credit, Mr. Mooney says that pro-ID voices should not be completely censored. But his article implies that the way to avoid the "pairing" problem is to diminish or weaken pro-ID arguments in articles, leaving pro-evolution arguments to have the louder microphone. Clearly he is not interested in a truly balanced presentation of the views.

Mr. Mooney again warns TV talk show hosts about the dangers of allowing pro-ID quests on their shows because "the adversarial format of most cable news talk shows inherently favors ID's attacks on evolution by making false journalistic 'balance' nearly inescapable." Can evolution not withstand this "adversarial format"? Or does Mr. Mooney not desire a truly fair presentation. What other solution could Mr. Mooney suggest other than limiting the pro-ID viewpoint from such venues? Mr. Mooney does suggest one clear solution: journalists should become partisans in the debate:

In short, to better cover evolution, journalists don't merely have to think more like scientists (or science writers). As the evolution issue inevitably shifts into a legal context, they must think more like skeptical jurists. 164

In recommending that journalists behave as "jurists" who are "skeptical" of intelligent design, Mr. Mooney implies they should let their own prejudices influence their reporting. Under this journalistic philosophy, the court of public opinion is to be determined by the media. Since when is it the media's role to determine the

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ *Id.* ¹⁶⁰ *Id.*

¹⁶² Mr. Mooney stated this at a talk attended by the author on September 14, 2006 at Elliot Bay Books in Seattle, Washington.

¹⁵³ Chris Mooney & Matthew C. Nisbet, "Undoing Darwin," *Columbia Journalism Review*, (September / October, 2005) at http://www.cjr.org/issues/2005/5/mooney.asp [this article was the cover story of this issue]. ¹⁶⁴ *Id.*

answers to complex social issues? This is not an issue where the public agrees with the position Chris Mooney thinks the media should advocate: over 75% of Americans agree that "[w]hen Darwin's theory of evolution is taught in school, students should also be able to learn about scientific evidence that points to an intelligent design of life. But according to Mr. Mooney and other powerful players within the journalism establishment, journalists need to discard any notion of true objectivity and neutrality in order to protect the American public from pro-ID arguments. Do these pro-ID arguments pose the sort of threat to evolution that justifies Mr. Mooney's conceded abandonment of the traditional journalistic principle of balance? Mr. Mooney seems to imply that journalists should become partisans in their coverage of intelligent design because the American people cannot be trusted to think for themselves.

Mr. Mooney even thinks that opinion pages should limit the space given to pro-ID viewpoints:

[On opinion pages], competing arguments about evolution and intelligent design tend to be paired against one another in letters to the editor and sometimes in rival guest op-eds, providing a challenge to editors who want to give voice to alternative ideas yet provide an accurate sense of the state of scientific consensus. The mission of the opinion pages and a faithfulness to scientific accuracy can easily come into conflict. 196

Mr. Mooney then complains that a local paper covering the *Kitzmiller* trial "recently print[ed] at least one" letter submitted by "a Christian conservative group." The problem according to Mr. Mooney is that "many opinion-page editors see their role **not as gatekeepers of scientific content, but rather as enablers of debate within pluralistic communities." But since when are journalists the arbitrators of scientific dogma, and not those the public entrusts to neutrally communicate and report the diverse viewpoints which exist into the public discourse? According to Mr. Mooney, it was a travesty that some papers covering the** *Kitzmiller* **case printed approximately equal numbers of letters-to-the editor in favor or against intelligent design. Mr. Mooney complained that this equal representation resulted in "an entirely lopsided debate within the scientific community [that] was transformed into an evenly divided one in the popular arena." For Mr. Mooney, because the majority viewpoint in the scientific community is generally against ID, pro-ID voices should not be allowed to make their arguments fairly heard even in the public sphere—even if the public is overwhelmingly friendly to ID. Even those who agree with Mr. Mooney's scientific position need not agree with his rhetorical strategy: ideas thrive by letting critics have their say and permitting intellectual freedom within the marketplace of viewpoints. If evolution is right, it can win the debates which Mr. Mooney does not want to see occur in the public discussion.**

But Chris Mooney didn't always complain. He praised an editorial board of a paper covering the *Selman v. Cobb County* case because it stated that "our science infrastructure is under attack from religious extremists" and "warned repeatedly of the severe negative economic consequences and national ridicule that anti-evolutionism might bring on the community," thus adopting Mr. Mooney's party line. He observed that most of the letters printed were against ID, and pondered if this "may suggest a community with different views than those in Dover, Pennsylvania, or it may suggest a stronger editorial role." So in Chris Mooney's eyes, a "stronger editorial role" is the limiting of viewpoints that conflict with the prevailing dogma of the scientific establishment, even when that viewpoint has high support from many letter-writers.

Mr. Mooney also praised the *New York Times* and *The Washington Post* because "the opinion pages sided heavily with evolution" but then scolded the *New York Times* because "a false sense of scientific controversy was arguably abetted when The New York Times allowed Michael Behe, the prominent ID

¹⁷⁰ /d.

According to a Zogby poll in 2006, over 75% of Americans agree that "When Darwin's theory of evolution is taught in school, students should also be able to learn about scientific evidence that points to an intelligent design of life." See http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=719

¹⁵⁵ Chris Mooney & Matthew C. Nisbet, "Undoing Darwin," *Columbia Journalism Review*, (September / October, 2005) at http://www.cjr.org/issues/2005/5/mooney.asp (this article was the cover story of this issue).

¹⁶⁸ *ld.* (emphasis added).

¹⁶⁹ *Id.*

proponent, to write a full-length op-ed explaining why his is a 'scientific' critique of evolution." ¹⁷¹ Does this imply that Mr. Mooney thinks that Behe's singular voice explaining the scientific case for ID should have been wiped clean from the *New York Times* editorial page?

Mr. Mooney fears that "the unintended consequence may be that increased media attention *only helps proponents present intelligent design* as a contest between scientific theories rather than what it actually is — a sophisticated religious challenge to an overwhelming scientific consensus." But if he is concerned about *not helping* a cause, then clearly he is interested in using the media as a tool *to hurt it*. This nonneutral behavioral recommendation raises a question: What right does Mr. Mooney or anyone in the media have to make judgments about this controversy which lead them to diminish and weaken the presentation of certain viewpoints? (As was previously documented, Mr. Mooney's arguments that ID is not science are based upon fundamental misconstruals of the theory (see Error #3).) He concludes that "[in] such a situation, journalistic coverage that helps fan the flames of a nonexistent scientific controversy (and misrepresents what's actually known) simply isn't appropriate." This assumes that there is no controversy. Mr. Mooney concludes with proscriptions for keeping the pro-ID viewpoint out of media coverage:

So what is a good editor to do about the very real collision between a scientific consensus and a pseudo-scientific movement that opposes the basis of that consensus? At the very least, newspaper editors should think twice about assigning reporters who are fresh to the evolution issue and allowing them to default to the typical strategy frame, carefully balancing "both sides" of the issue in order to file a story on time and get around sorting through the legitimacy of the competing claims.¹⁷³

Here Mr. Mooney's recommendation for journalistic bias is stated explicitly: In short, Mr. Mooney thinks it is *not* appropriate to cover "both sides" of a dispute in a truly balanced or objective fashion even if this is "the typical" methodology of journalism. Indeed, he directly suggests that reporters who *would* employ such balance should *not* be assigned to report on evolution. According to his view, one side should not be given the same amount of air-time, size of print-space, or numbers of opportunity for rebuttal simply because it goes against the "consensus." According to Mr. Mooney, such "balancing" isn't appropriate. Mr. Mooney ends by stating that "the media have a profound responsibility — to the public, and to knowledge itself." This sounds reasonable, but one would think this responsibility carries with it the duty to inform the public about the arguments promoted by both sides in a balanced fashion, and then let the reader decide. If arguments for evolution are so powerful, then doesn't Mr. Mooney think they can win the debate? It is now clear why Mr. Mooney does not cover the "war" against pro-ID viewpoints in the academy: he recommends that very form viewpoint discrimination within his own field of journalism.

Conclusion: Mr. Mooney Should Either Retract or Rewrite His Chapter against ID

Mr. Mooney's "war" on intelligent design makes many misplaced arguments. Given that Mr. Mooney's characterization of intelligent design as unscientific is based upon fundamental misconstruals of the theory, it appears that his conclusions—though widely craved by foes of intelligent design—are not rooted in actual fact.

If Mr. Mooney wants to critique ID, that is fine and he has every right to do so. But he should critique the actual theory of ID, and not promote the false, straw-man version described in his book. Mr. Mooney is urged to either retract or rewrite his chapter on intelligent design so it does not promote a false, straw-man mischaracterization of intelligent design which is only put forward in argument by critics, but never the scientific proponents of ID. Fairness would also suggest he should recognize that the real travesty in the intelligent design debate is the attack upon the academic freedom of prointelligent design scientists and scholars.

172 *ld.* (emphasis added).

¹⁷¹ /a

¹⁷³ *Id.*

¹⁷⁴ *Id.*