

Media Coverage of “Intelligent Design”

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News media coverage of the controversy surrounding recent attempts to insert creationism into public school science curricula—this time in the form of “intelligent design”—has generated miles of copy and hours of television footage. The quality of that reporting varies widely, depending on the media outlet. Often, reporters with no scientific training are assigned to report on evolution–creationism controversies, which inevitably leads to distortions of the relevant science. A misconceived concern for balance frequently results in equal time being accorded to biologists and creationists, creating the illusion of scientific equivalence. At other times, a clear bias toward creationism is revealed, especially on cable television. Focusing mainly on recent treatments, this article analyzes and critiques specific stories, as well as trends and patterns in coverage in newspapers, magazines, and television; it concludes with suggestions of ways in which scientists can be more effective in dealing with the media.

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Increasingly in the past few years, states and local school districts have had to confront challenges to science education instigated by antievolutionists. Part of the reason for this surge of antievolution activity is the repackaging of creationism in the less overtly religious form of “intelligent design” (ID), which enjoys the support of a number of prominent, politically conservative groups and individuals. As a result of this activity, the news media have produced miles of copy and hours of television footage in their coverage of evolution and ID. The quality of this reporting varies widely, depending on the media outlet.

Terms of the debate

The landscape of this debate has changed considerably since the antievolution flare-ups of the 1970s and 1980s. Terms such as “creation science” and “originally created kinds” have nearly disappeared from the discussion. Defenders of a young Earth and ancient global flood are still around, but a string of adverse court decisions made it impossible for them to have their ideas openly presented in public school science classes.

Proponents of ID often bristle at the term “creationism.” In the public consciousness, that term is laden with the sort of religious connotations ID supporters wish to abjure. They claim that there are scientifically rigorous methods by which the products of an intelligent agent can be identified, independent of any knowledge concerning the history of those products. As an elementary illustration, they point to the faces on Mount Rushmore: Only the action of an intelligent agent, and not natural forces like weathering and erosion, can account for them. It is in large part this assertion of scientific rigor that ID proponents claim distinguishes their creed from traditional creationism. In making this assertion, however, they

ignore the fact that the creation scientists before them made similar claims of scientific rigor.

Proponents of ID further claim that their methods, when applied to biological systems such as the human blood-clotting cascade, reveal that these complex systems must be the products of an intelligent agent. It is natural to suppose that the designer is God, but ID proponents, mindful of potential constitutional challenges to teaching that idea in the public schools, are adamant that science is incapable of validating that identification.

Most ID literature is devoted to attacks on modern evolutionary theory. Proponents claim that the scientific lines of evidence used to support evolution are dubious at best. Such arguments are recognizable as a proper subset of the traditional creationist canon. Also prominent in ID-generated literature are philosophical and sociological claims that likewise have precursors in creation science. Among these claims are that modern science unreasonably and arbitrarily bars supernatural explanations from receiving a fair hearing, and that “the Darwinian establishment” is so powerful and monolithic that the traditional venues of scientific discourse are closed to ID proponents.

It is not the purpose of this article to analyze the merits of ID arguments. The major scientific and philosophical claims for ID have already been assessed and refuted in several books (Miller 1999, Pennock 1999, 2001, Young and Edis 2004). The religious motivations of the ID movement, along with its

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attempts to craft a constitutionally acceptable form of creationism, have also been documented at book length (Forrest and Gross 2004). Nor is it our intention either to argue, as Forrest and Gross (2004) and Coyne (2005) have, that ID is a historical continuation of traditional creationism, or to pursue a sociological investigation of the antievolution movement (such as Eve and Harrold 1991 or Toumey 1994).

Rather, our intention is to consider the manner in which the nation's major media outlets cover the evolution-ID issue. Writing in *Columbia Journalism Review*, Chris Mooney and Matthew Nisbet (2005) note that in covering this issue, the media transforms "an entirely lopsided debate within the scientific community" into an "evenly divided one in the popular arena." We agree with this conclusion, and will present concrete examples of the rhetorical techniques through which this transformation is achieved. On the basis of these examples, we will offer several suggestions for how scientists can more fruitfully engage the media.

News about the evolution-ID issue seems to break almost daily. Consequently, any analysis of media coverage will be outdated almost as soon as it is written. In this article we focus exclusively on a half year's worth of media—articles written and shows aired between November 2004 and April 2005. We begin with coverage in the wake of the presidential election, because the ID movement received a boost with the reelection of President George W. Bush, who, as he publicly disclosed during a press conference in August 2005, is sympathetic to the ID cause. For a discussion of more recent examples of media coverage, we recommend the article by Mooney and Nisbet (2005). Furthermore, we have confined our analysis to just three forms of media: major national newspapers, weekly newsmagazines, and cable television news channels.

Newspapers

Several themes emerge in the news coverage of evolution-creationism disputes in the largest newspapers in the United States. First, very little science finds its way into the coverage. Because most of these disputes concern public education, it is usually a reporter who specializes in education or politics, rather than a science reporter, who is assigned to the story. Evolution is often not defined at all, or is defined in grossly inaccurate terms. The history of evolutionary theory typically is given short shrift as well. Evolution is often described as "Charles Darwin's theory of evolution" (as if biology has not progressed since 1859). This usage persists for at least two reasons: the media's need to put a human face on the issue by attaching a name to the theory, and the creationists' sustained campaign to present evolution as a relic of the 19th century. Thus, evolution supporters are "Darwinists," and anything related to modern evolutionary science is "Darwinism."

The journalistic need for succinct definitions also distorts the treatment of young-Earth creationism and ID. The reporter typically makes a clear distinction between the two, which has the effect of making ID seem like a science-based critique of evolution, not a religion-based attack on it. A

typical example comes from the article "Call to Arms' on Evolution," published in *USA Today*:

To most scientists, evolution is defined as changes in genes that lead to the development of species. They see it as a fundamental insight in biology.

Creationism is the belief that species have divine origin.

Another alternative to evolution is called "intelligent design." Proponents believe some cellular structures are too complex to have evolved over time. (Vergano and Toppo 2005, p. 7D)

None of these definitions would be regarded as adequate by any of the participants in the debate. Even worse, they present a distorted picture in which ID is distinct from creationism and both are "alternatives" to evolution, and in which the massive evidence for evolution, on the one hand, and the scientific bankruptcy and religious agendas of the "alternatives," on the other, are completely neglected. Also typical is a back-and-forth style of reporting, in which a quote from one side is mechanically balanced in the next paragraph by a quote from the other. There is little attempt to evaluate the merits of what each side is saying. The *USA Today* article quoted above supplies a good example:

Says Stephen Meyer of the Seattle-based Discovery Institute, which promotes intelligent design: "My first reaction is we're seeing evidence of some panic among the official spokesmen for science." He says [NAS President Bruce] Alberts is wrong—that intelligent design is not creationism but a scientific approach more open-minded than Charles Darwin's theory of evolution.

Biologists retort that any reproducible data validating intelligent design would be welcome in science journals. "If there were indeed deep flaws in parts of evolutionary biology, then scientists would be the first to charge in there," says Jeffrey Palmer of Indiana University in Bloomington.

Meyer counters that scientific leaders such as Alberts block a fair hearing of evolution alternatives. "There are powerful institutional and systematic conventions in science that keep (intelligent) design from being considered a scientific process," he says. (Vergano and Toppo 2005, p. 7D)

From such exchanges a lay reader could hardly avoid drawing the erroneous conclusion that there is some genuine controversy here between rival scientific camps. But it is a conclusion that a more intrepid reporter could have forestalled, for example, by asking the editors of scientific journals whether ID proponents are in fact submitting any papers purportedly providing evidence for ID.

Although most news articles on this subject take a skeptical, but polite, stance toward ID, they are also quick to point out the obvious political and religious aspects of the dispute. The growth in popularity of ID is typically, and correctly, linked to the general resurgence of religious fundamentalism in the United States. A cogent example comes from the article “Battle on Teaching Evolution Sharpens” from the *Washington Post* (Slevin 2005). The article opens as follows: “Propelled by a polished strategy crafted by activists on America’s political right, a battle is intensifying across the nation over how students are taught about the origins of life. Policy-makers in 19 states are weighing proposals that question the science of evolution” (Slevin 2005, p. A1).

Later, we come to this: “They are acting now because they feel emboldened by the country’s conservative currents and by President Bush, who angered many scientists and teachers by declaring that the jury is still out on evolution. Sharing strong convictions, deep pockets and impressive political credentials—if not always the same goals—the activists are building a sizable network” (Slevin 2005, p. A1).

The *Post* article thus does an unusually good job of making it clear that antievolution advocacy has more to do with political strategizing than with scientific truth.

Newsmagazines

Even though magazine reporters typically have more time and more resources to devote to their stories, reporters who specialize in politics or education are usually the ones who write them. So you will still find the polite, but skeptical, tone toward ID, the “dueling quotations” approach to journalism, and a regrettable tendency to frame the debate in the preferred terms of the ID side. A recent example comes from *Newsweek*. The title and subtitle set the tone: “Doubting Darwin: How Did Life, in Its Infinite Complexity, Come to Be? A Controversial New Theory Called ‘Intelligent Design’ Asserts a Supernatural Agent Was at Work.” The article lays out its version of the debate in the second paragraph:

Eighty years after the Scopes trial, in which a Tennessee high-school teacher was convicted of violating a state law against teaching evolution, Americans are still fighting the slur that they share an ancestry with apes. This time, though, the battle is being waged under a new banner—not the Book of Genesis, but “intelligent design,” a critique of evolution couched in the language of science.... Proponents of I.D., clustered around a Seattle think tank called the Discovery Institute, regard it as an overdue challenge to Darwinism’s monopoly over scientific discourse. (Adler 2005, pp. 45–46)

Notice the references to “Darwinism” and “Darwinians.” Notice also the implication that ID is based on science and not religion. Later in the paragraph, a lawyer for the ACLU offers the standard counterargument that ID relies on the supernatural, and hence is unscientific. While that is indeed a major shortcoming, the utter failure of ID to produce anything

of scientific interest is not mentioned. These are the standard tropes for the major newsmagazines no less than for the daily newspapers.

Time magazine’s foray into this genre came in its 31 January 2005 issue. It sets the familiar tone in its opening paragraphs:

The intellectual underpinnings of the latest assault on Darwin’s theory come not from Bible-wielding Fundamentalists but from well-funded think tanks promoting a theory they call intelligent design, or I.D. for short. Their basic argument is that the origin of life, the diversity of species and even the structure of organs like the eye are so bewilderingly complex that they can only be the handiwork of a higher intelligence (name and nature unspecified). (Lemonick 2005, pp. 53–54)

More than *Newsweek*’s article, however, the one in *Time* makes an attempt to grapple with the fringe nature of ID: “But many scientists—and science teachers—don’t think there is any valid criticism. Sure, some 350 scientists have signed a declaration challenging *evolution*. [Emphasis added, to draw attention to the reporter’s unwitting adoption of a device employed by the Discovery Institute, whose “A Scientific Dissent from Darwinism” refers just to “Darwin’s theory of evolution” and “random mutation and natural selection,” but then is billed and construed as a challenge to *evolution*.] But many tens of thousands of scientists reject I.D.’s core argument—that evolution can’t produce complex structures” (Lemonick 2005, p. 54).

And while the reporter engages in the aforementioned back-and-forth quotation pattern, he also offers a critical evaluation:

Then there’s the assertion that evolution is “just” a theory. “They are playing on the public’s lack of understanding of what a scientific theory is,” says Bingman. “It’s more than a guess. It’s a set of hypotheses that has been tested over time.” Evolutionary theory does have gaps, but so do relativity, quantum theory and the theory of plate tectonics. West says those are different because scientists in these fields, unlike evolutionists, aren’t afraid of intellectual debate. Evolutionists counter that they have welcomed challenges. (Lemonick 2005, p. 54)

He rather drops the ball in the next sentence, though: “They developed the theory of punctuated equilibria, for example, to address the fact that species remain unchanged for long periods, then suddenly start evolving.”

With explanations like this, which manage to combine a mischaracterization of punctuated equilibria with a misleading suggestion of its origin, it is hardly surprising that people do not understand the basics of evolutionary theory.

Television

Coverage of the evolution–creationism dispute on the broadcast television networks (ABC, CBS, NBC, and PBS) is similar to that provided by the print media, although because of the limitations of the medium, oversimplification is even more prevalent. It is on the cable news stations that something quite different, and far more distressing, appears.

All three of the major cable news networks (CNN, MSNBC, and Fox) devote a major portion of their prime-time lineups to debate-oriented shows. Such debate as takes place is invariably superficial. This is especially evident in their handling of evolution–creationism disputes, where it is simply taken for granted that evolution is an all-encompassing, atheistic worldview. Far from being a modest attempt to unravel the major events of natural history after life appeared, cable news treats evolution as an attempt to explain the origins of life, the Earth, or even the universe, and to deny the existence of God and promote immoral behavior in the bargain.

One example comes from the 21 April 2005 edition of the MSNBC show *Hardball*, for which host Chris Matthews's guests were the Reverend Terry Fox of Wichita, Kansas, and Eugenie C. Scott of the National Center for Science Education. At one point, Matthews persisted in interrogating Scott, an agnostic, about her personal religious beliefs—"Do you believe that everything we live—do you think our lives, who we are, the world around us, was an accident of some explosion millions of years ago and it led to everything we see? Do you believe it was all just natural selection or just an accident of scientific development?"—despite her repeated insistence that what is at issue is what ought to be taught in science classes.

An examination of the transcript reveals a second major theme of cable news discussion of this issue: Time is not allotted equally to both sides. The segment comprised just under 1600 words. Matthews himself claimed the bulk of this verbiage, with roughly 700 words. Fox came in second with 560, with Scott having just 329 words. The result is the superficial impression that the creationist is winning the debate.

The highest-rated of these cable shows is Fox's *The O'Reilly Factor*. In its excursion into the evolution–creationism fray on 18 January 2005, host Bill O'Reilly introduced the segment this way:

Spurred on by the ACLU and other so-called freedom groups, a nationwide controversy has erupted over teaching intelligent design in public school biology classes. Intelligent design is the belief that a higher power created the universe. Some Americans want it taught alongside evolution. In the Dover, Pennsylvania, school district, teachers wouldn't even mention intelligent design, so today the district superintendent had to do it. Lawsuits are flying.

These are political shows, and the people who host them have no scientific credentials—in discussing scientific issues, they frequently reveal their ignorance. Furthermore, they

tend to be biased toward the religious right and thus sympathetic to ID and hostile to evolution. These shortcomings are clearly on display in O'Reilly's introduction. Note the gratuitous slap at the ACLU and the benign definition of ID (if ID were really just the idea that a higher power created the universe, then it would be perfectly consistent with evolution).

O'Reilly's guest that night was biologist Michael Grant. Consider the following exchange:

O'REILLY: OK. But science is incomplete in this area of creationism, is it not?

GRANT: Science is always incomplete in all areas.

O'REILLY: Well, I don't agree with that. Science is not always incomplete, and I'll give you an example. There are 24 hours in a day. All right. That's science. And there are four seasons. That's science. So you can state things with certainty in biology or any other science you want. However, if I'm a student in your class and you're telling me, well, there might have been a meteor or big bang, or there might have been this or there might have been that, I'm going to raise my hand like the wise guy I am and say, "Professor, might there be a higher power that contributed to the fact that we're all here?" And you say—what?

GRANT: I say that's something you need to discuss with other people. You need to do that in the proper class. In the biology class we deal with science, with the natural world and what fits our conventional concepts of science.

O'REILLY: But, what if it turns out there is a God and He did create the universe and you die and then you figure that out? Aren't you going to feel bad that you didn't address that in your biology class?

GRANT: Well, to quote a famous quote...

O'REILLY: Because then it would be science, wouldn't it? You know, if tomorrow the deity came down and proved himself, then it would be science, wouldn't it, sir?

Again, the host seized most of the time for himself. But obviously O'Reilly is confused about key scientific issues. His examples of scientific certainty are actually mere matters of convention ("season" in meteorology; "day" in the sense of "mean solar day" in astronomy). And anything short of certainty—"there might have been a meteor or big bang, or there might have been this or there might have been that"—he regards as a pretext for invoking divine intervention. Moreover, it is clear that in O'Reilly's view, evolution is an inherently atheistic theory.

Reading the transcript does not tell the full story, however. Grant, no doubt flummoxed by the rapid-fire hostility of O'Reilly's questions, looked a bit dazed and unsure of himself. O'Reilly, by contrast, was supremely confident. On television, flash and style count for far more than substance.

At least Matthews and O'Reilly had actual scientists on the show. By contrast, on the 15 December 2004 edition of the MSNBC show *Scarborough Country*, guest host Pat Buchanan introduced the following panel to discuss the relative merits of evolution and creationism: "Joining me now, Dr. Al Mohler, president of the Southern Baptist Theological Seminary; David Silverman, a spokesman for American Atheists; Christian music artist Natalie Grant. And Republican strategist Jack Burkman is still with us." Not one panel member had any scientific credentials.

Given the prearranged harmony of the panelists—save for the foil from American Atheists—it is not surprising that the discussion contained fawning exchanges like this one:

BUCHANAN: I want to go back to you, Al Mohler, and the point I was talking to Dave Silverman about. It seems to me if, in the public schools you teach Darwinism, the theory of evolution, and no other alternative, and since Darwinism points to no God, what you are doing then is indoctrinating children in the belief that there is no God and no creator. And it seems to me that crosses the line of separation of church and state or a violation of the First Amendment every bit as much as the charges in the Scopes trial.

MOHLER: Well, that's absolutely right. And, Mr. Buchanan, you know the US Supreme Court has ruled that secular humanism is itself a religion. And Darwinism, in terms of its theory, in terms of the way it's taught, in terms of its structure, it's undeniably a religious truth claim. It's just the religion in which there is no God or, as others would say, there's nothing left for God to do. It is an inherently anti-Christian religion. But it is a religion. And that's why they're holding to their dogma so tenaciously and that's why they're so scared to death and paranoid, insecure about the rise of intelligent design. It scares them to death.

This is what cable news viewers are being told about the nature of science generally and evolution in particular; the print media do little better. What is the scientific community going to do about it?

Conclusions

We have only scratched the surface of this topic. Regional newspapers vary widely in their coverage of, and respect for, evolution. Partisan magazines, especially conservative ones, have a great many things to say on the subject. Television coverage on the major networks is substantially more sedate than it is on cable. And the extent and quality of coverage of these issues is influenced by a host of journalistic, social, po-

litical, economic, and religious factors too numerous and too broad to discuss thoroughly in this article. But, even on the basis of such a limited and preliminary discussion, there are clear morals to extract for the scientific community.

Antievolutionists have a very attractive message to market. They do not tell journalists that they want a certain myopic religious viewpoint presented as legitimate science. Instead, they talk about presenting both sides, being open-minded, opposing censorship, and presenting all the evidence. The only way for the evolutionist to counteract this is to show that creationism's scientific pretensions are nonsense. That is precisely what cannot be done in a brief newspaper article or television appearance.

Scientists therefore need to become more savvy in their dealings with the media. Toward that end, we offer the following suggestions.

In any encounter between scientists and the media on the subject of creationism, declare first and foremost that the specific scientific assertions of ID proponents are false. State unambiguously that evolutionary theory is perfectly capable in principle of explaining the formation of complex biological systems, and, indeed, has done so in practice many times.

Avoid arguing simply that ID is unscientific because of its reliance on the supernatural, or that present-day mysteries may eventually yield to scientific explanations. Both of these assertions are certainly correct, but they play into the hands of ID proponents. The former fosters the impression, which ID proponents are keen to convey, that defenders of evolution are merely ruling ID unscientific by definitional fiat, while the latter seems to concede that there are vast explanatory holes in modern evolutionary theory.

Invest time in preparation. Read the books and articles produced by young-Earth creationists and ID proponents. Scientifically knowledgeable readers may find this a frustrating and aggravating experience, but it has to be done in order to respond. Also read material on the historical, religious, philosophical, educational, and legal issues associated with the dispute (a good starting place is Scott 2005).

Watch your language, with respect to both terminology and tone. Don't assume that your readers and listeners understand that a theory is more than a hunch or a guess, for example. Similarly, speak of *accepting* rather than *believing in* evolution, since the latter will strike many as expressing a statement of faith rather than a judgment based on the evidence. As for tone, the manner in which you deliver your message can be as important as the content of your message. Try to sound calm, informed, and knowledgeable—especially in public appearances and on radio or television.

Expect the religion card to be played. Creationists—abetted by a handful of scientists, to be sure—have convinced a large segment of the public that evolution is intrinsically atheistic.

Whether or not you are religious yourself, be prepared to point out that evolution is accepted simply on the basis of the overwhelming evidence in its favor by scientists of all faiths, and that quite a few religious denominations have made their theological peace with evolution.

Be ready, too, to rebut the inevitable appeal to fairness.

Perhaps the most powerful argument in the creationist repertoire is the idea of giving students “both views” and leaving it up to them to decide. What is truly unfair, of course, is to cheat students of an adequate science education by telling them anything other than the truth: Evolution is at the core of modern biology.

Look for opportunities to become a spokesperson.

You might begin small, by submitting letters to the editor of your local newspapers applauding, criticizing, or expanding on recent articles on evolution–creationism issues. More ambitiously, inquire about the possibility of submitting an op-ed piece supporting evolution education. You can ask your university press office to list you as an expert on the topic. You can also cultivate reporters on your own: Drop a friendly note to reporters who write on evolution–creationism issues, commenting on their stories and offering your help when they next do a story on the topic.

With the rise of blogs (short for “Web log”) as cheap but influential media sources, consider speaking out on the Internet.

Among the scientists who use blogs as platforms to defend the teaching of evolution are P. Z. Myers (University of Minnesota at Morris; <http://scienceblogs.com/pharyngula>), John M. Lynch (Arizona State University; <http://scienceblogs.com/strangerfruit>), and the first author of this essay (<http://evolutionblog.blogspot.com/>). Such blogging can have profound effects. For example, when an article arguing for ID was published, under suspicious circumstances, in a legitimate scientific journal, a detailed critique quickly appeared on the collaborative blog The Panda’s Thumb (www.pandasthumb.org, to which Myers, Lynch, and

the first author contribute). This critique was subsequently cited in news stories in *The Scientist* and *Nature*.

For most scientists, it is natural to be circumspect when discussing complex scientific issues. That approach is totally ineffective in dealing with the media. What seems like sober reflection in an academic setting comes off as weakness when printed in a newspaper or stated on television. Proponents of ID are effective precisely because they spend so much time thinking about public relations. Scientists need to do likewise.

Anticipating a storm of controversy over *On the Origin of Species*, Thomas Henry Huxley wrote, “I am sharpening up my beak and claws in readiness.” Scientists today, too, should be taking themselves to the grindstone.

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