

Undoing Darwin: when the coverage of evolution shifts to the political and opinion pages, the scientific context falls away.

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On March 14, 2005, The Washington Post's Peter Slevin wrote a front-page story on the battle that is "intensifying across the nation" over the teaching of evolution in public-school science classes. Slevin's lengthy piece took a detailed look at the lobbying, fund-raising, and communications tactics being deployed at the state and local level to undermine evolution. The article placed a particular emphasis on the burgeoning "intelligent design" movement, centered at Seattle's Discovery Institute, whose proponents claim that living things, in all their organized complexity, simply could not have arisen from a mindless and directionless process such as the one so famously described in 1859 by Charles Darwin in his classic, *The Origin of Species*.

Yet Slevin's article conspicuously failed to provide any background information on the theory of evolution, or why it's considered a bedrock of modern scientific knowledge among both scientists who believe in God and those who don't. Indeed, the few defenders of evolution quoted by Slevin were attached to advocacy groups, not research universities; most of the article's focus, meanwhile, was on anti-evolutionists and their strategies. Of the piece's thirty-eight paragraphs, twenty-one were devoted to this "strategy" framing--an emphasis that, not surprisingly, rankled the Post's science reporters. "How is it that The Washington Post can run a feature-length AI story about the battle over the facts of evolution and not devote a single paragraph to what the evidence is for the scientific view of evolution?" protested an internal memo from the paper's science desk that was copied to Michael Getler, the Post's ombudsman. "We do our readers a grave disservice by not telling them. By turning this into a story of dueling talking heads, we add credence to the idea that this is simply a battle of beliefs." Though he called Slevin's piece "lengthy, smart, and very revealing," Getler assigned Slevin a grade of "incomplete" for his work.

Slevin's incomplete article probably foreshadows what we can expect as evolution continues its climb up the news agenda, driven by a rising number of newsworthy events. In May, for example, came a series of public hearings staged by evolution-theory opponents in Kansas. In Cobb County, Georgia, a lawsuit is pending over anti-evolutionist textbook disclaimers (the case is before the U.S. Court of Appeals for the Eleventh Circuit). And now comes the introduction of intelligent design into the science curriculum of the Dover, Pennsylvania, school district, a move that has triggered a First Amendment lawsuit scheduled to be argued in September before a federal judge in Harrisburg. President Bush and Senator Bill Frist entered the fray in early August, when both appeared to endorse the teaching of intelligent design in science classes.

As evolution, driven by such events, shifts out of scientific realms and into political and legal ones, it ceases to be covered by context-oriented science reporters and is instead bounced to political pages, opinion pages, and television news. And all these venues, in their various ways, 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. This notion may be politically convenient, but it is false.

We reached our conclusions about press coverage after systematically reading through seventeen months of evolution stories in The New York Times and The Washington Post; daily papers in the local

areas embroiled in the evolution debate (including both papers covering Dover, Pennsylvania, the Atlanta Journal-Constitution, and the Topeka, Kansas, Capital-Journal); and relevant broadcast and cable television news transcripts. Across this coverage, a clear pattern emerges when evolution is an issue: from reporting on newly discovered fossil records of feathered dinosaurs and three-foot humanoids to the latest ideas of theorists such as Richard Dawkins, science writers generally characterize evolution in terms that accurately reflect its firm acceptance in the scientific community. Political reporters, generalists, and TV news reporters and anchors, however, rarely provide their audiences with any real context about basic evolutionary science. Worse, they 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.

Later this month, all of this will probably be on frill display as the dramatic evolution trial begins in Pennsylvania over intelligent design, or ID. The case, *Kitzmiller v. Dover Area School District*, will be the first ever to test the legality of introducing ID into public-school science classes. The suit was filed by the ACLU on behalf of concerned parents after the local school board voted 6-3 to endorse the following change to the biology curriculum: "Students will be made aware of gaps/problems in Darwin's Theory and of other theories of evolution including, but not limited to, Intelligent Design." The trial is likely to be a media circus. And, unfortunately, there's ample reason to expect that the spectacle will lend an entirely undeserved p.r. boost to the carefully honed issue-framing techniques employed by today's anti-evolutionists.

"Nothing in biology, makes sense except in the light of evolution," the famed geneticist Theodosius Dobzhansky wrote in 1973. What Dobzhansky calls "evolution," Charles Darwin himself often called "descent with modification," but the basic idea is the same--that the wide variety of organisms occupying the earth today share a common ancestry but have diversified greatly over time. The main force driving that process, Darwin postulated, was "natural selection." In brief, the theory works like this: natural variations make some organisms better equipped than others for their various walks of life, and these variations are heritable. As a result, some organisms will be more likely to survive than others and will therefore pass on advantageous traits to their offspring--a process that, over vast stretches of geological time, can bring about division into species and, ultimately, the diversity of life itself.

Since Darwin's time modern science has dramatically bolstered this theory with evidence from a wide range of fields. For example, advances in genetics and molecular biology have now shown how heredity actually works, as well as explained the nature of chance mutation (the source of the "variation" that Darwin noted). In fact, DNA now provides perhaps the single best piece of evidence supporting the theory of evolution. More closely related organisms turn out to have more DNA in common, meaning that the course of evolutionary change can actually be charted through genetic analysis.

As the National Academy of Sciences has noted, further evidence for evolutionary theory comes from such diverse arenas as the fossil record, comparative anatomy (which reveals structural similarities in related organisms, often called "homology"), species distribution (showing, for instance, that island species are often distinct from but closely related to mainland relatives), and embryology. With all of this interlocking evidence, the academy has declared the theory of evolution to be "the central unifying concept of biology."

Despite its firm foundation, however, evolution has long been challenged by some devout religious believers who find it incompatible with a literal interpretation of scripture and an assault on religion itself (even though many evolutionary scientists are themselves religious). Over nearly a century in the United States, the creationist movement has not only persisted but changed its form in reaction to legal and educational precedents. In the 1960s and 1970s, after the U.S. Supreme Court ruled that bans on the

teaching of evolution were unconstitutional, creationists adopted the mantle of "creation science" or "scientific creationism," arguing for instance that Noah's flood caused geological phenomena like the Grand Canyon, and calling for "equal time" for their views in public schools.

More recently, Darwin's foes have taken up intelligent design, making the more limited--and far more sophisticated--claim that evolution alone cannot explain the stunning complexity of anatomical structures such as the eye, or, more basically, parts of the cell. The intelligent design movement, like the creation science movement before it, includes at least a few Ph.D.s--for example, Lehigh University's Michael Behe, who argues that certain biochemical structures are "irreducibly complex," meaning that they could not have evolved in an unguided fashion and must instead have been designed by a superhuman intelligence. Behe's arguments have not successfully swayed the broader biological community, however.

If attacks on evolution aren't anything new in America, neither is the tendency of U.S. journalists to lend undue credibility to theological attacks that masquerade as being "scientific" in nature. During the early 1980s, for example, the mega-evolution trial *McLean v. Arkansas* pitted defenders of evolutionary science against so-called "scientific creationists." Today, few take the claims of these scientific creationists very seriously. At the time, however, proponents of creation science were treated quite seriously indeed by the national media, which had parachuted in for the trial. As media scholars have noted, reporters generally "balanced" the scientific-sounding claims of the scientific creationists against the arguments of evolutionary scientists. They also noted that religion and public-affairs reporters, rather than science writers, were generally assigned to cover the trial.

Now, history is repeating itself: intelligent-design proponents, whose movement is a descendant of the creation science movement of yore, are enjoying precisely the same kind of favorable media coverage in the run-up to another major evolution trial. This cyclical phenomenon carries with it an important lesson about the nature of political reporting when applied to scientific issues. In strategy-driven political coverage, reporters typically tout the claims of competing political camps without comment or knowledgeable analysis, leaving readers to fend for themselves.