

RELIGION, SCIENCE AND PUBLIC EDUCATION: NEWSPAPER COVERAGE  
OF THE ORIGINS' DEBATE IN OHIO'S PUBLIC SCHOOLS

By

JUSTIN D. MARTIN

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by

Justin D. Martin

This document is dedicated to my parents, William and Sandy Martin; my success in higher education would not have been possible without you.

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## TABLE OF CONTENTS

	<u>page</u>
ACKNOWLEDGMENTS .....	iv
LIST OF TABLES .....	vii
ABSTRACT .....	viii
CHAPTER	
1 INTRODUCTION .....	1
Religion in American Public Life .....	2
The Emergence of Intelligent Design .....	4
Criticism of Intelligent Design .....	6
The Controversy in Ohio .....	8
Intelligent Design and the Structure of Scientific Revolutions .....	10
Intelligent Design and Social Capital .....	11
2 BACKGROUND .....	14
Journalists and Religion .....	14
Journalists and Science .....	18
Framing .....	21
Framing Religion .....	25
Hypotheses and Research Questions .....	26
3 METHODS .....	30
Sample .....	30
Coding Instrument and Coding Scheme .....	30
4 RESULTS .....	33
Article Tone .....	33
Frames .....	33
Creationist and Fundamentalist Terms and Descriptors .....	34
Location of Publication and Treatment of the Intelligent Design Controversy .....	36
Scientific Uncertainty, Scientific Acceptance and Scientific Denial .....	37
Scientific vs. Religious portrayal .....	38

5	DISCUSSION.....	48
	Limitations.....	57
	Future Research.....	58
APPENDIX		
A	CODESHEET.....	60
B	CODEBOOK.....	64
	LIST OF REFERENCES.....	68
	BIOGRAPHICAL SKETCH.....	80

## LIST OF TABLES

<u>Table</u>	<u>page</u>
4-1 Frequencies.....	39
4-2 Tone of Article across Type of News Article .....	41
4-3 Presence of Creationist Terms across Article Tone .....	42
4-4 Presence of Creationist Descriptors across Article Tone .....	43
4-5 Location of Publication across Article Tone.....	44
4-6 Location of Publication across Presence of Creationist Terms.....	45
4-7 Location of Publication across Presence of Creationist Descriptors.....	46
4-8 Scientific Acceptance/Uncertainty across Article Type.....	47

Abstract of Thesis Presented to the Graduate School  
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By

JUSTIN D. MARTIN

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Broadly, this project analyzed journalistic treatment of religion and science. Specifically, this thesis analyzed the treatment of a discipline called Intelligent Design and a surrounding controversy that took place in Ohio's public schools. Intelligent Design is a notion which challenges Darwinian evolution through the claim that life is too complex to have originated by chance variations. The decision of whether or not to include the concept of Intelligent Design in Ohio's public school science curricula sparked a flood of newspaper coverage both inside and outside the state of Ohio. This thesis examines this newspaper coverage in terms of the overall tone of the coverage, various "frames" or central themes that organized the coverage, the presence/absence of certain descriptors of the Intelligent Design movement, and also the treatment of Intelligent Design as "science" or "non-science."

## CHAPTER 1 INTRODUCTION

Media mold and influence our understanding of the world. Religious issues are, for most people, a part of that world. Because of increasing media coverage of religious issues, my study examined media coverage of a religious debate. The debate over the merits of a discipline called Intelligent Design (ID)—the idea that life is far too complex to have developed randomly and without purpose—is a unique one, in that it is a religious debate taking place across the entire country, from Nebraska and Texas, to Minnesota and Pennsylvania. Few if any religious issues are more debated, covered in the media, or hotly disputed than the theory of intelligent agency in the universe, and the challenge it poses to naturalistic evolution. One study on newspaper coverage of ID showed that articles on ID frequently elicited a flood of letters and responses from readers, sometimes lasting for a week or more after a specific article was published (Martin, Trammell, Valois, Landers & Bailey, 2004). This public interest in, as well as opposition to, the ID discipline has fueled a panoply of media coverage of the topic.

One need only type in the words ID to search engines (such as Google and Yahoo) or databases (such as Lexis Nexis and Ebsco Host) to recognize the volume of resources and criticism available on this topic. Much of this coverage involves controversies in public school districts, and their deliberations and decisions on whether to include ID in public-school science curricula and, if so, to what extent. My study examined newspaper coverage of one such ID controversy in and among the school board and citizens of the state of Ohio.

### **Religion in American Public Life**

By the middle of the 20<sup>th</sup> Century, many western scholars believed religion was a fading aspect of public life, but that belief soon passed (Armstrong, 2004). The phenomenon of religion has reemerged in recent years in liberal democracies, as well as in the rest of the World, and media coverage of religious issues and scholarly analysis of media and religion have paralleled this trend (De Vries, 2001). Unlike the general interpretation of the theory of secularization, religion is not a moribund influence in society (Silk, 2000). Even in places like Great Britain, where weekly church attendance is an apathetic 7% of the general population, Internet churches are sprouting up in an attempt to interest young worshipers (Radcliffe, 2004). Christian books have been penetrating bestseller lists worldwide. One such book, Rick Warren's *The Purpose-Driven Life* (2002), has sold nearly 11 million copies. This reemergence of religion is perhaps even more prominent in the United States, because the incumbent president is a born-again and vocal evangelical Christian; and also because of religious overtones inherent in the gay-marriage and pledge-of-allegiance debates taking place in states across the country, and in Congress (Winston, 2004). Mass communication scholars have seemingly taken notice of these trends.

Since the mid-twentieth century, the relationship between religion and the mass media has come into scholarly focus (Hoover, 2002). In the last twenty years, communication scholars have increasingly studied this relationship (Mitchell, 2000). The *Journal of Communication and Religion* was founded in the late 1970s, but more in-depth analysis did not proceed until later (Hatcher, 2003). Indeed, it was not until 2002 that the *Journal of Media and Religion* began publishing quarterly periodicals addressing this relationship.

Still, some scholars favor more study of religious issues and the media (Stout & Buddenbaum, 2002), and this may be due to a recent increase in media coverage of religious issues. During roughly the past 10 years, religion journalism has grown, and more journalists are now willing to step into the fray and report on religious controversy (Ward, 2002, p12; "Newspapers get religion," 1999). In December 2003 and January 2004, for instance, all three major American news magazines (*U.S. News & World Report*, *Time* and *Newsweek*) published cover or major articles critiquing author Dan Brown's (2003) theological and fictional book *The Davinci Code* (Kulman & Tolson, 2003; Kantrowitz and Underwood, 2003; Grossman, 2004). In the same year, *U.S. News* also published two more cover articles covering major religious trends: one involved dominant perceptions of Jesus in America, and the other involved the increasing size of American evangelical congregations (Tolson & Kulman, 2004; Tolson, 2003).

In the summer of 2003, Alabama Chief Justice Roy Moore made national headlines when he refused to remove a monument bearing the ten commandments of Judeo-Christianity, an event that sparked national dialogue about religion in the public square (Hoffman, 2004). In an even greater example of media frenzy over religious issues, on February 25, 2004, Mel Gibson's anticipated film "The Passion of the Christ," began playing amid enormous fanfare and in movie theaters nationwide (Goldstein, 2004). Also, recent scandals involving the Catholic Church have ignited a flood of media coverage of the role and effects of organized religion in and on contemporary society (Wirth, 2002). The large amount of extant media coverage of religion, according to some scholars, warrants study of such coverage (Buddenbaum, 2002). This study addressed that need; and in analyzing a specific religious controversy, builds on prior

communications research about media and religion in general, as well as upon research on newspapers and ID in particular.

### **The Emergence of Intelligent Design**

American theists (and more specifically, religious conservatives) are highly concerned with culture and values (Kintz & Lesage, 1998). Many Americans have rejected the “secularization” of the country’s public schools, and advocate a return to Judeo-Christian beliefs (Mattheis, 1981). Many of these values spring from certain beliefs about the universe and its origins: beliefs that have spawned a new era in the Creation-vs.-Evolution debate. In 2002, Mason Dixon polling surveyed 1,500 Ohioans and found that 59% favored teaching ID and the theory of evolution by natural selection in the state’s public schools (Viadero, 2002).

By this time, most Ohio residents were familiar with the argument of ID, and more than half felt Ohio’s schoolchildren should consider it. Other similar debates have taken place in school boards across the country, and most recently in Georgia.

Before the early 1990s, the phrase Intelligent Design was not well-known. By the end of that decade and the beginning of the next, though, the phrase and its acronym were appearing in books from university presses; and newspaper and magazine articles, refereed, academic journals. Discussion of the movement appeared on public television networks like *PBS* (Beckwith, 2003a). The journal *Natural History* (“Intelligent Design?,” 2002) devoted space in one volume to arguments from three proponents and three challengers of ID. Searching LexisNexis or other academic/journalistic databases yields thousands of articles on the topic of Intelligent Design.

In general, ID is “a scientific research program that investigates the effects of intelligent causes, an intellectual movement that challenges Darwinism and its

naturalistic legacy” (Dembski, 1999, pp.13). Intelligent Design’s scholars hale not only from fields such as theology and philosophy, but also from biology, mathematics and law and are accomplished scientists (“Not Your Daddy’s Fundamentalism,” 2004). Followers of the movement distinguish themselves from their creationist predecessors mainly through a higher level of scientific literacy (*The New Scientist*, 2002), and their popular presence and political influence is increasing.

Much of this coverage was due to debate of science standards in various school districts across the country. In places like Kansas, Alabama, New Mexico, Kentucky, Ohio, Michigan and Minnesota, school boards debated future standards for teaching the origins of life, whether to use certain evolutionary terminology, and whether to include ID theory in their curricula (Moore, 2002).

The first successes of ID’s penetration into the public awareness are largely credited to University of California, Berkeley professor of law Phillip Johnson. In 1990, while on sabbatical in London, England, Johnson wrote *Darwin on Trial*, a book largely credited as the precursory text of the ID movement (Woodward, 2003). The book argued that for reasons such as large gaps in the fossil record, Charles Darwin’s theory of common ancestry through successive, slight modifications was untenable. The book created a stir in scientific communities and encouraged some like-minded scholars to join efforts. In the years after the release of his 1991 bestseller, Johnson and colleagues both for and against design theory arranged academic conferences and symposia on ID at such institutions as Stanford, Cornell, the University of Texas, Harvard and the University of Chicago (Beckwith, 2003). On the ID side of this debate, design theorists claim Darwinism and the biological sciences are driven by philosophical naturalism; on the

Darwinist side of the controversy, evolutionists tag design theory as Creationism in disguise and its proponents as academics with an agenda.

Broadly, ID proponents submit that “intelligent agency, as an aspect of scientific theory making, has more explanatory power in accounting for the specified, and sometimes irreducible, complexity of some physical systems, including . . .the existence of a universe as a whole, than the blind forces of unguided and everlasting matter”(Beckwith, p.xiii, 2003b). These “blind” and “unguided” forces are what Johnson (2000) claims embodies the philosophy of naturalism, and he argues that the scientific community is faced with two choices when confronting ID: scientists can entertain the possibility of supernatural creation or dismiss it outright.

ID’s proponents do more than critique and call into question the philosophy of scientific naturalism; according to Beckwith (2003a), these researchers are publishing books in academic presses and articles in refereed journals. Unlike some Creationist adherents, ID advocates offer scientific, technical and empirically grounded arguments to promote and support theism (Beckwith, 2003b). ID researchers are generally more subtle than Creationist theologians; the former claim that natural selection cannot explain the complexity of life, and suggest intelligent agency, but say very little about who or what that agent may be (Greenwalt, 2003).

### **Criticism of Intelligent Design**

That the ID movement is growing in recognition and influence need not imply that it is without its critics. Some scientists argue simply that ID is not a scientific discipline, because the complex nature of human life does not necessarily imply Creation (Shermer, 2004). Some of the most heated political controversies in the last four decades involved the teaching (and not teaching) of evolution in public schools (Lugg, 2004). The notion

of ID elicits strong responses in many academics; according to *The London Times*, shortly after turning 100 years of age, Harvard biologist Ernst Mayr is putting final touches on a research publication critical of design theory (Henderson, 2004).

Modernization, or secularization, of American life, such as that in public schools, has been wrought with conflict and harsh words from both the religious and secular camps (Smith, 2003). American Institute of Biological Sciences president Judith Weis (2001) encourages biologists to counteract the efforts of ID with perpetual determination.

While some survey data suggests most Americans favor teaching design theory alongside evolution, many academics dispute the notion that ID is a scientific discipline. Some scholars feel that ID should be addressed in religion classes and evolution in scientific ones (Wexler, 2003). Cracraft (2004) goes further by saying that ID in science classrooms poses a danger to students' scientific literacy. Physicist Adrian Melott (2002, p.48) claims that ID is "Creationism in a cheap tuxedo." Other scholars feel ID proponents are plainly ignorant or deliberately spurious when it comes to scientific objectivity (Milner & Maestro, 2002). Just because an entity exhibits complexity does not mean it was intelligently designed, some say. A termite mound, says Peterson (2002), is complex and beautiful, but that does not necessary lend itself to the work of an intelligent agent. In a similar vein, Eller (2003) criticizes ID proponents for basing their theory on unexplained aspects of evolution. He uses the example of macroevolution (species evolving into an entirely different species). ID researchers are quick to note that, says Eller, not one example of macroevolution has ever been proven either in or outside of the fossil record, an assertion he claims does not prove intelligent agency by default.

Campbell (2003), however, feels that the goal to preserve the integrity of science is compromised when competing theories of life's origins are dismissed outright, and he hints that the only way to increase the plausibility of naturalism is to defeat such competition in classrooms and lecture halls.

### **The Controversy in Ohio**

This study analyzes newspaper coverage of a religious/scientific debate in Ohio's public school board. While controversies over ID in public schools have raged in other states, Ohio was chosen for analysis for specific reasons. Ohio is not part of the group of states frequently referred to as the "Bible Belt," and is therefore indicative of ID's influence in middle America and outside of so-called evangelical strongholds. Furthermore, Ohio offers an interesting duality: according to polling data, the general population of Ohio supports the inclusion of ID in the state's public schools (Viadero, 2002). Academics, however, are generally less accepting of ID (Johnson, 2002), and the state of Ohio has within its borders some of the most prestigious academic institutions in the United States: the University of Cincinnati, Case Western Reserve University, The Ohio State University, etc. Perhaps this is why the controversy in Ohio raged for a considerable period of time. Newspaper coverage of the Ohio controversy is extensive and suitable for analysis (news coverage ranges roughly from mid-2000 to early 2004). This study builds on prior research on ID in the media in particular, and journalism and religion research in general.

"Education becomes religious in a formal sense," wrote Hunt (1960, p.90), "when instruction is given in the tenets of one of the organized faiths." Hunts' words might have been uttered by one of ID's challengers in Ohio some 40 years later, as the controversy in that state was essentially this: evidence challenging Darwinism was proposed for

inclusion in the state science curriculum, and opponents claimed such an inclusion was honoring “tenets” of “organized faith.” The debate in Ohio over public-school science standards was long and fierce; at times, rumors promised that evolutionary proponents would file lawsuits against the school board if challenges to evolution were allowed in public classrooms (Galley, 2004). The crux of the debate centered on whether or not to allow teachers to criticize aspects of evolutionary theory they deemed lacking.

Critics of these efforts and of Intelligent Design, though, claimed the campaign challenging evolutionary standards was an attempt to sneak religion in the classroom (Durbin, 2000). The controversy began in 2001, shortly before the Ohio Board of Education was poised to ratify the state’s science standards for its 1.8 million public-school children, something the board does every several years (Mangels & Stephens, 2002). The board of education initially rejected the request (“Evolution solution faith: science must part at school door,” 2001) and the controversy remained relatively static until 2002 when the Ohio Board of Education voted 17-0 to endorse a “resolution of intent” expressing their plan to alter the state science standards to include evidence challenging Darwinism (Winnick, 2002). The controversy was settled with the passage of the Academic Freedom Act of 2004, which provided public school teachers “the affirmative right and freedom to present scientific, historical, theoretical, or evidentiary information pertaining to alternative theories or points of view on the subject of biological or physical origins” (Goldacre, 2004, p.3). The law stopped short of requiring teaching of Intelligent Design, and did not specify design theory as one of the “alternative theories or points of view,” but ID proponents hailed the law a major victory in the challenge to Darwinism in public classrooms. The passage of the law was a victory for

ID adherents, because supporters of the theory were not asking for inclusion of ID in the first place. Such supporters were “not asking the state to require the teaching of evolution and intelligent design,” according to one *Columbus Dispatch* article. “Instead, they want guarantees in the standards that arguments or materials critical of the theory of evolution can be introduced,” (Lore, 2000, p.1).

### **Intelligent Design and the Structure of Scientific Revolutions**

Most scholars who have praised or critiqued tenets of Thomas Kuhn’s (1962) famed essay *The Structure of Scientific Revolutions* discuss Kuhn’s notion of paradigm shift and paradigm change. Kuhn devotes significant space in his essay, however, to discussing the difficulty many scientific historians encounter when they attempt to chronicle and to capture the nonlinear accumulation of scientific knowledge while using linear language. Part of the problem historians face, of course, involves the panoply of articles, books and letters they must sift through in order to document the progression and, ultimately, the success or failure of scientific ideas and movements. “Perhaps science does not develop by the accumulation of individual discoveries and inventions,” writes Kuhn (p.2).

Kuhn goes on to argue that this results in historians asking nonlinear questions; instead of asking about the relationship between revolutionary scientists of the past and those today, for example, many historians may now ask questions regarding a revolutionary scientists’ relationship with his or her contemporaries. For historians, quantitative content analysis makes possible generalizations from large amounts of resources and references to the scientific climate of the period under examination. This study seeks to examine the taproots of what just may be the sprout of scientific revolution, by analyzing coverage of the IDdebate within Ohio’s public school system.

Not only do social scientists experience resistance and criticism in the difficulty of examining the massive amount of historical documents, but social scientists have also been strongly criticized for their frequent inability to predict the future (Machlup, 1961). For social scientists in communications, content analyses make predicting the nature of future mass media messages less arbitrary. One of the primary uses of framing theories, for example, is the ability to conjecture in an educated way how future coverage of an issue is likely to be presented. This study, then, may provide some cohesion for future historians who wish to chronicle the success or failure of the ID movement, and may also add logic to predictions of future coverage of religious and/or scientific movements and revolutions.

For better or worse, ID may be poised for scientific revolt. ID is gaining steam in academic circles. The vast majority of Americans believe in a supernatural creator of the universe (Huntington, 2004). Scientific revolutions, one could argue, cannot subsist without a newly developed concept of social force called “social capital,” which is discussed below, as is the concepts’ relationship to Intelligent Design.

### **Intelligent Design and Social Capital**

Much ink has been spilt on the concept of social capital in the academic literature of the fields of political science, sociology, economics, to name a few, and also in the field of education (Horvat, Weininger & Lareau, 2003). The notion of social capital, generated by Harvard’s Robert Putnam in the early nineties (Holm, 2004), is defined as social forces that inspire trust, action, awareness and reciprocity in and among communities (Leyden, 2003). Requena (2003) defines social capital as cooperative, social partnerships that spur collective action.

As seen in Ohio, ID appears to contribute to social capital, in that it spurs collective action in the areas of education, local and state politics, and in the interpretation and questioning of scientific paradigms. Examples of ID's influence on social capital come from some of the articles on the topic. Perhaps the most glaring example of ID's influence on social capital appeared in the *Harvard Journal of Law and Public Policy* by Beckwith (2003), who argues that design theory has reignited interest and awareness of a debate that was considered by many to be over.

Another such example comes from London's *The Guardian*. Burkeman and Jha (2003, p.4) reported that, in terms of ID's influence, "one of the first signs that something was changing came last year in the suburbs of northern Atlanta, when people started talking . . . about mousetraps." The mousetrap was adopted by ID proponent and author of the bestselling *Darwin's Black Box* (1996) Michael Behe to explain a characteristic of living cells he calls "irreducible complexity." While the specifics of irreducible complexity are not important here, Burkeman and Jha's observations are noteworthy. These two journalists recognized that ID had spurred in Georgia widespread debate about biochemical machinations. Not only did ID principles spur discourse on the science of life's origins, but *The Guardian* also reported that ID was impelling scores of Georgian parents to challenge the material their children were learning in school by confronting governing officials.

If ID expands public awareness, interest and concern with broad issues like education, public policy and traditional scientific paradigms, as Marske (1996) argues are the indicators of influence on social capital, then mass media coverage of such an impetus should be studied. This study analyzed more than 250 newspaper articles

covering the burgeoning movement and influence of Intelligent Design, borne out in controversy in Ohio's public schools.

## CHAPTER 2 BACKGROUND

### **Journalists and Religion**

The very first newspapers —printed information published on a consistent basis— were published in Reformation strongholds like Augsburg and Amsterdam and were religious in nature (Olasky, 1991). While newspapers and journalism in general are wholly different today than in the 17<sup>th</sup> Century, religion is once again becoming a staple of mass media. Like religions’ ostensible reemergence into public life, religion has, in the past quarter century, become newsworthy. According to Keeler, Tarpley and Smith (1990), religion became news again in the 1970s, because journalists realized religion had an impact on presidential elections, foreign policy and Supreme Court rulings. Criticism of this increased coverage, though, became no less common than the religious content itself.

In his book *Unsecular Media*, Silk (1995) notes that anyone knowledgeable about a particular topic will likely express dissatisfaction with the way that topic is covered in the mass media. Indeed, in their analysis of media framing of feminism/the women’s movement, Ashley and Olson (1998) concluded mainly that media coverage of feminism served to de-legitimize the movement. Religion, similarly argues Silk, is no different in this regard and, by the standards of theologians and others, media coverage of religion frequently demonstrates errors, improper slant or inadequate contextualization (see also Engstrom and Semic, 2003). These sentiments led *The Washington Report on Middle East Affairs* to complain that mainstream American journalists have not done enough to

encourage an understanding of Islam and of Muslims living in the U.S. (“Scarves of many colors,” 1997).

Traditionally, religion reporting has been considered less than a top assignment and, for quite some time, was marginalized in American journalism (Buddenbaum, 1986; Moses, 1993). Hubbard (1988) claims that some journalists view themselves as liberated from having to report on religion and, for some time, have chosen to report on issues of the nation separate from faith. Hubbard goes on to argue that some journalists view religion as a private aspect of life, and avoid it, choosing instead to report on issues they deem public. Soukup (1996) feels that religious individuals hold distrust for the media, and might even partly blame mass communicators for corrupting society with objectionable content. Perhaps this is why Buddenbaum (1998, p.1) feels mass media demonstrate that “religion is the greatest story that’s never told, or, at least, the greatest story that’s never told very well.” According to Ward (2002), journalists experience difficulty covering religious stories because such issues are typically sensitive and often polarizing, and they don’t want to appear to favor one stance or another. For this reason, he claims, editors have historically avoided many religious stories in favor of other current events issues.

Within roughly the last decade, however, religion stories have been too important for some editors to ignore and journalists are being sent out regularly on religious assignment (Buddenbaum, 1990). “Religion reporting is hot,” writes Alice Shepard (1995, pp.18-19) in the *American Journalism Review*. “More and more people are looking for spiritual elements in their lives.” People are also looking for more spiritual elements in political candidates, a phenomenon which could be partly responsible for

increased coverage of religious issues in the presidential campaign year of 2004, according to one *New Yorker* article (Hertzberg, 2004). *U.S. News & World Report* columnist John Leo (2004) also pointed out the focus on religion at the 2004 Democratic National convention, which led to increased dialogue about religion in the media, something self-evident in his very column, which was titled “Talk about getting religion!”

Perhaps because religion journalism is an increasingly prevalent phenomenon, some researchers feel communication scholars know little about the relationship between mass media and religion (Stout & Buddenbaum, 2002). Communication researchers tend to study both religion and the mass media, usually in isolation and rarely together (Buddenbaum, 2002). This is also true according to Hoover (2002), who feels that some mass communication scholars deem religion as a fading and insignificant aspect of cultural life, although such a suggestion is weakened by the fact that 83 percent of Americans identify themselves as either practicing Catholics or Christians (Florio, 2004). Moreover, a study by *Nieman Reports* suggests that Americans favor more and a wider range of media coverage of religious issues (Hoover, 1993), even in the face of evidence suggesting that religious stories in the media are now more in-depth and detailed than in the past (Buddenbaum, 1986). This sought to shed light on the relationship between mass media and religion by studying print journalism coverage of a religious/scientific controversy.

When reporting on religion and its role in American life, the media frequently portray religious issues as a conflict between fundamentalists and the mainstream. For instance, the coverage of Muslims in America, according to an analysis of seven major

news dailies conducted by *The Christian Science Monitor* in the mid-nineties, frequently demonstrates journalists' tendency to emphasize fundamentalist and extremist characteristics (Marquand, 1996). In doing so, media practitioners often ignore the erasure of denominational borders (Bolce & DeMaio, 2002). And because antipathy toward Christian fundamentalism exists among educated and secular elites (Bolce & DeMaio, 1999; Kerr, 2003), some media scholars argue coverage of religious issues generally, not just particularly those stories fundamentalist in nature, is negative or critical. Hoover (1998, p.57) admits that a "media cohort explanation"—the idea that, as a group, journalists are less religious and more politically leftist than mainstream America—of such coverage is a compelling one.

Such cohort reporting may have been evident in coverage of the 1980 presidential election, in the way journalists presented American evangelicals, "The Christian Right," as they labeled them. These American voters were portrayed as a powerful "political development" steering support for Ronald Reagan, although follow-up analyses of voter choice did not recognize such mobilization (Johnson & Tamney, 1982). Coulter (2002) claims that supposed political power of the so-called "Christian Right" is something journalists claim but inaccurately define. In the case of Intelligent Design, the primary debate is not simply one between Creationists/fundamentalists and the mainstream. There are differing schools of thought within the discipline: under ID's auspices exist agnostics, northeastern Catholics, southern Baptists and liberal Episcopalians, and not all agree on an intelligent agent's role in the origins of life.

Not all media scholars, however, agree that coverage of religious issues and individuals is definitively negative. Although many religious Americans accuse the

media of being hostile to religion in public life and for harshly reporting on religious issues such as church and state separation (Gedicks, 1992), it may be unfair to instinctively disdain religion reporting if only because one dislikes the message (Neuhaus, 2003). Lichter, Rothman and Lichter (1986) found that more than half of elite journalists expressed no or minimal religious beliefs, but other research challenges the generalizeability of the findings and points to evidence claiming that three-fourths of journalists exhibit religious interest (Weaver & Wilhoit, 1996).

Some research suggests that the media have an overall positive orientation with religion and, in particular, with Christianity (Underwood & Stamm, 2000). While not challenging the notion that the media demonstrate attitudes toward religion disparate with the American public, such research posits that journalists are satisfactorily objective toward religion in hard news coverage (Kerr & Moy, 2002). Religion reporters do not exist solely to cover religious conflict, but also to examine religion's relationship with, and influence on, public life (Strupp, 1999).

### **Journalists and Science**

Along with reporting on religious issues, the media play a monumental role in public understanding of scientific issues and concerns (Lewenstein, 1995). For not a small number of years, though, journalists and scientists have had a rocky relationship; journalists view themselves as entertainers, informers and challengers of ideas, while many scientists see themselves as the originators of important and useful information which should be communicated by the news media to the public in certain ways (Reed & Walker, 2002). This conflict may be evident in the relationship between the mass media and environmental scientists; the former view themselves as entertainers in the way of

environmental conflicts and current event issues, while the latter view themselves as public educators of certain scientific evidence (Roll-Hansen, 1994).

Although many researchers do not attempt to publish their work outside of the academic community, some scholars stress the importance of scientific reports in the mass media, especially in order to foster a dialogue between academics and mass media consumers (Ben-Ari, 1998). Priest and Eyck (2003) argue that discussion of the latest scientific developments often take place in elite circles and away from public light and feel that the mass media are in a position to influence more public interpretation of scientific issues than other issues of interest. Many researchers do not write press releases on their academic work, perhaps because journalists have been criticized time and again for their coverage of science. The beat of science journalism continues to grow (Fayard, 1997) and, it appears, so does criticism of the genre. According to Shaw (2000; see also Condit, 2004), much science learning takes place outside of academic classrooms and in the mass media and, therefore, scholars should investigate such coverage.

In their book *Communicating Uncertainty* (1999; see also “Testing a radical theory,” 2004), Friedman, Dunwoody and Rogers suggest that in some ways, journalists could do better in their coverage of new and uncertain science. Specifically, they posit that journalists frequently portray emerging scientific movements as more certain than may be warranted. One reason for this might be that journalists tend to minimize and play down scientific uncertainties when reporting on new scientific developments (Singer & Endreny, 1993). Science reporters have also been criticized for frequently neglecting to fully explain underlying scientific processes and effects which, if true, could be a reason why many scientific uncertainties are not thus described (Gilbert, 1997).

Journalists sometimes exaggerate the importance of new medical developments/procedures, for example (Wilkins, 1999). Murray, Schwartz and Lichter (2001) similarly maintain that journalists can either highlight or ignore certain aspects of scientific reports. They note that many preliminary and/or incomplete research reports receive absolute-truth treatment in the press. Incomplete scientific reports may also result from the fact that the media's overriding goal is to engage readers/listeners/consumers with their content and providing new and exciting scientific information may be one approach to this, despite whether or not journalists gave more than a cursory nod at the data. Also, journalists work on tight deadlines, so in-depth analysis of scientific reports and their flaws becomes difficult (Barker, 1995). In their analysis of media coverage of breast cancer in the 1990's, Andsager and Powers (1999) similarly found that space constraints and other pressures presented problems for reporters covering scientific developments regarding this disease.

While the best science reporting usually includes detailed background information on the subject, lengthy and informative quotes from the researcher(s), and comments from other scholars in the same field (Lewis, 1999), many science articles simply are not that detailed or carefully written. Scientific reports are sometimes rushed to the press, regardless of whether the truth of the reports is certain among journalists (Pollard, 1996). Journalism schools, though, are frequently intimating to students the importance of detailed exposition of science in their copy (Starr, 2002). Following scientific developments and breakthroughs, journalists are the first people to communicate such science to laypeople, and they must do so with sharp details written in common language (Friedhoff, 2002). Lewenstein (1995) argues that, with increasing technologies available

to reporters for communicating and understanding science, scientific reporting is changing and improving.

### **Framing**

When evaluating news coverage, whether that coverage deals with issues scientific, religious or otherwise, the organizing presentation of such issues is important to consider. As we humans navigate our lives, we are forced to sort through and organize enormous amounts of information. Much of this information, of course, reaches us via the mass media, and media frames are credited with helping us manage the panoply of messages to which we are exposed. Commonly described as the second level of a theory called agenda setting, frames provide a coherent way to decipher and archive these mounds of information (Cohen & Wolfsfeld, 1993). In the past quarter-century, communications scholars have concentrated research efforts into study of agenda-setting, framing, and effects thereof. Shifting away from a somewhat stringent view of the audience as passive recipients, scholars have focused on the media's potential and deliberation in shaping coverage of current events (Goffman, 1974; McCune, 2003; Davis, 1995). Much research has been conducted on media framing as a theory of media effects. Framing, which involves details as subtle as diction and nuance as well as larger influences such as source selection, has been used to analyze media bias and mass media influence on public opinion (Jasperson, Shah, Watts, Faber & Fan, 1998). The cognitive process of interpreting media frames, regardless of how complex or basic those frames may be, involves low levels of cognitive attention and are thus shortcuts which help media consumers understand a story or issue (Bryant & Zillman, 2002). That frames are described in the literature as cognitive shortcuts, however, need not diverge from the argument that such frames are persuasive to some degree. McQuail (1994) argued that

the study of mass communication exists upon the assumption that mass media messages exert effects on people, and framing has been studied to this end. Scheufele (1999) argues that theoretical understanding of frames should take place within the larger context of media-effects research.

Frames are central organizing themes and supporting points within which news packages are delivered (McLeod & Detenber, 1999). Similarly, Gamson and Modigliani (1987) argue that frames are organizational tools that provide meaning and weave related points of an argument or story together in a concrete way. More than that, though, Benford and Snow (2000) argue framing processes are so important that they must be examined in order to understand the root of social movements.

At their best, frames make our world more knowable and more interpretable (Durham, 1998), and journalists should be credited with the usefulness of such organization (Tuchman, 1979). At their worst, though, frames may have the capability to perpetuate old stereotypes or create new ones. In her analysis of media frames of mental illness, Sieff (2003) found that media frames in such stories often maintained and/or worsened negative stereotypes toward people with psychopathologies. Similarly, Iyengar (1990) argues that frames of poverty and of the poor shape public perception of the movement and of the destitute. Baylor (1996; Debono-Roberts, 2003; Terkildsen & Schnell, 1997) found that, depending on the particular frames used to present a movement, media coverage can often hinder the movement's success. And, depending on their presentation, frames can either increase or impede cognitive responses to a given issue (Shah, Kwak, Schmierbach, & Zubric, 2004). Other research suggests that media

frames have the capacity to perpetuate and increase, if not create political cynicism among American news consumers (Cappella and Jamieson, 1996).

McCombs (1997) suggests that media frames are not necessarily deliberate, and that in free societies the news media do not intentionally slant the news one way or another. Entman (1991), however, feels that media practitioners frame news in order to elicit a favorable response from their audience which, if true, shapes media coverage in significant ways. Like Entman, Olasky (1988) also argues that mass media shape public agendas and often unevenly bestow legitimacy on one group or another. Brewer (2003) feels that, in their coverage of polarizing issues, media practitioners often present compound frames, offering both sides of the issues and leaving news consumers to decide for themselves which frame makes more sense. In this way, it is not uncommon to notice camps on opposing sides of an issue trying to influence, define and help frame the issue at hand (Severin & Tankard, 2001). All frames are not equal, though, and frames can steer an audience toward a certain interpretation of an issue and do not necessarily allow for an egalitarian interpretation of all points of view (Tewksbury, Jones, Peske, Raymond, Vig & 2000, Ball-Rokeach & Rokeach, 1987).

The publics' reasoning about an issue often relies on frames used to organize and package the issue (De Vreese & Boomgaarden, 2003; Andsager & Powers, 1999; Nelson, Clawson, Oxley, 1997) because, often, the presence of one frame often equals the absence of another, competing frame (Gamson, Reese, Gandy & Grant, 2001; Haller & Ralph, 2001). Similarly, Zoch and Turk (1998) argue that one of the most powerful ways journalists frame an issue is through source selection, and the presence of one source can preclude the inclusion of another.

Such framing effects are manifest in changes in people's choices about an issue (Iyengar, 1987). Frames can affect the level of consideration that people give to one side of an issue and, in so doing, affect the balance of opposing stances/arguments (Nelson, Oxley and Clawson, 1997). People often arrive at one conclusion instead of another, depending upon how an issue is framed. This may be a problem, according to Bullock, Wyche and Williams (2001), because the presentation of a main frame and a few supporting points may reduce the depth of the coverage of certain issues, leaving consumers with little to take away from a story regarding an issue's underlying causes. Similarly, Watkins (2001) found that media framing of the Million Man March in the mid-nineties focused less on the specific issues that generated public interest in the event, and more on framing the controversial stories about march organizer Louis Farrakhan.

Entman (1993) argues that the choices media consumers make about an issue depend largely on the choices of individual journalists, who frame issues in a two-step process. He claims that journalists first select certain aspects of an issue/event and then make these aspects salient. Entman (2004) also identifies four major steps journalists climb in organizing media content. First, he argues that certain aspects, developments or conditions surrounding an issue are identified as negative. Next, possible causes are presented for consideration. A moral judgment (whether deliberate or otherwise) of some kind is then passed. Finally, various potential remedies or solutions are presented.

So much research has been devoted to defining and understanding frames that some scholars argue that, by some definitions, any characteristic of a news story can be an organizing frame (Chyi & McCombs, 2004). Other researchers choose to analyze smaller numbers of widely researched frames. Perhaps in the interests of parsimony,

DeVreese (2004) examined just two political frames in his content analysis of Dutch television news. In the same vein, and to avoid a cumbersome or unwieldy interpretation of media frames, the few frames analyzed in this study are only those essential to the topic under examination. Although examining 20 or 25 frames of a media subject may be warranted by some of the extant framing literature, examining fewer frames may yield more interpretable results. This study examined the presence and tone of five different frames: science, religion, educational consequences, political involvement and legal consequences (for conceptual descriptions of these frames or to see how such organizing themes were operationally defined, please see the codebook in Appendix B).

### **Framing Religion**

Durham (1998) claims that successfully framing a news story is not easy and is, sometimes, impossible. When analyzing the ways media practitioners frame religious coverage, we must again remember Silks' (1995) assertion that anyone who studies religion or the relationship between the mass media and religion will probably dislike in some way journalists' coverage of it. Chen (2003), for instance, did not deem objective mass media presentation of Mormons during the 2002 Winter Olympics in Utah. That said, however, some communication scholars interpret differently the ways the mass media frame religious coverage. Some researchers claim such coverage provides secularized frames of religious issues, while others argue maintain that religious issues are framed within a context of positive values (Stout & Buddenbaum, 2003).

If the media are criticized for framing coverage of religion in a certain way, such coverage is not the only hot topic to draw fire. In her exploration of how the media frame the feminist movement, Beck (1998) found that journalists have a difficult time objectively framing women's issues. Other research has looked at how debate over

animal experimentation has been covered in the mass media, suggesting that coverage of the debate is less than perfect, particularly on television (Kruse, 2001). Perhaps issues such as the origins-of-the-earth debate, feminism and animal experimentation are simply controversial, whether discussed in the media or in social discourse.

### **Hypotheses and Research Questions**

The following hypotheses and research questions were written in consideration of the literature reviewed in the preceding two chapters. Some of that research, as well as additional and pertinent justification for the following statements, is cited prior to each question/set of questions. Due to prior research suggesting that newspaper coverage of religious issues tends to be impartial in hard news, critical in columns and editorials, and favorable in letters to editors (Kerr & Moy, 2002; Martin et al., 2004), hypothesis one predicts the following:

**H1:** The overall tone of newspaper coverage of the Intelligent Design debate in public schools will be negative, although tone will differ across news type. Specifically, hard news will tend to be neutral, columns and editorials will more often be negative, and letters to the editor will tend to be positive.

Research question one deals with the presence of five frames: science, religion, education, political involvement and legal consequences. Martin et al. (2004) analyzed the presence of five such frames in their analysis of newspaper coverage of ID. Inclusion of several of these frames, however (science, religion, education and legal consequences), is perhaps even more intuitive in the current study, given the nature of the controversy of interest. Intelligent Design is *a theistic* discussion of a Designer in science and the earths' origins, and the controversy under examination took place in an educational setting. Justifying the possibility of a political involvement frame, Kintz and Lesage

(1998) argue that the political influence of religious Americans is hard to deny. The fifth frame is a legal consequences frame. According to Gedicks (1992), many Americans who cherish religious values in public life decry what they claim to be hostility toward religion in both America's mass media and judicial systems. Gedicks further points out that such Americans cite Federal District and Supreme Court rulings on the separation clause as evidence of such hostility. For this reason, and because this study analyzes media coverage of what many consider to be a church-vs.-state issue, a legal consequences frame is included in research question one.

**RQ1:** Will newspapers frame the Intelligent Design debate in school boards more as science, religion, educational consequences, political involvement, or legal consequences? Which of the five will be the dominant frame?

Intelligent Design proponents typically shy away from Creationist and Fundamentalist labels to describe the movement in general, and themselves in particular. Martin et al. (2004), however, found that more than half of newspaper articles covering ID used such descriptors at least once. Research questions two and three deal with this nomenclature.

**RQ2:** To what extent will journalists use "Creationist" and "Fundamentalist" terms and descriptors in portraying the Intelligent Design debate in Ohio's school board?

**RQ3:** Are use of "Creationist" and/or "Fundamentalist" descriptors/terms frequent predictors of tone?

Since the Scopes Trial in Dayton County Tennessee took place in 1925, controversies involving evolution and Creation have received large amounts of national media coverage. Perhaps most famously, journalist H.L. Mencken traveled to Tennessee

during the Scopes Trial and wrote columns highly critical of the lifestyles and education of those opposing evolution (Ingraham, 2003). Similarly, when the Kansas school board voted to de-emphasize evolution in 1999, criticism rained on the Midwestern state from publications the country wide (Byrne, 1999). Much of this negative coverage came from sources outside of Kansas; one headline from the *Pittsburgh Post-Gazette* cautioned “Don’t let Creationists Corrupt Science Standards” (Kristalka, 2001, p.1). Research questions four and five deal with differences in coverage between Ohio-based sources and those located elsewhere.

**RQ4:** Is the location of the news source a frequent predictor of overall article tone? In other words, are news sources outside of Ohio more likely to publish negative, positive or neutral coverage of the school board debate?

**RQ5:** Are sources outside of Ohio more or less likely to use Creationist and/or Fundamentalist descriptors?

One of the criticisms of scientific coverage in the mass media involves journalists’ tendency to present new scientific developments with unwarranted acceptance and validation (Friedman, Dunwoody & Rogers). Research Question six involves scientific uncertainty vs. acceptance in newspaper coverage of Ohio’s school-board debate.

**RQ6:** Does newspaper coverage of the Ohio school board controversy present Intelligent Design more with scientific uncertainty, scientific denial or scientific acceptance?

One of the central debates of the Intelligent Design movement is that of religion vs. science. In fact, many books and journal articles written on the topic of ID serve to debate this very tandem (Peterson, 2002). Research question seven addresses this debate.

**RQ7:** Is the Intelligent Design debate in public schools portrayed more as a religious issue or as a scientific issue?

## CHAPTER 3 METHODS

This study analyzed newspaper coverage of a public school board debate on Intelligent Design, which took place from 2000 to 2004; these dates ranged from the beginning of the school board controversy in Ohio to its completion, signified by the boards' passage of the Academic Freedom Act of 2004. Methodology consisted of quantitative content analysis.

### **Sample**

The entire newspaper article was the unit of analysis for this study (N=268), except when the tone of each frame was analyzed. In those cases, the unit of analysis was an individual frame. The sample consisted of hard news articles (n=125), columns (n=42), editorials (n=24) and letters to the editor (n=77), while book reviews and community calendar items were pared from the sample. Full text articles were garnered from the LexisNexis database using the following search terms: "Intelligent Design" paired with the term "Ohio." Articles were collected from the "major newspapers" designation under the "General News" category under the "U.S. News" heading of the LexisNexis archive. Impertinent articles (such as those dealing with "intelligent design" in architecture) were not included in the sample. Articles in the sample ranged from April 14, 2000 to April 8, 2004.

### **Coding Instrument and Coding Scheme**

The coding instrument was constructed from categories used in prior literature examining the relationship between religion and science in the media (Martin et al.,

2004; Kerr & Moy, 2002; Huckins, 1999; Friedman, Dunwoody, Rogers, 1999; Silk, 1995; Kelstedt, Lyman, and Smidt, 1991). Considering such research and the current research questions, categories were developed to analyze the units of analysis.

The codesheet (Appendix A) consisted of the following categories: (1) Coder name; (2) Article number; (3) Article date; (4) Publication of article; (5) Location of publication; (6) Word Count; (7) Type of Article (hard news, column, editorial, etc.); (8) Location/Section article appeared in; (9) Article Headline; (10) Overall tone of article; (11) Use of “Creationist” terms (presence of words Creationist or Creationism); (12) Use of “Creationist” descriptors (specifically using the word Creationism or Creationist to refer to Intelligent Design proponents); (12) Creationist count (number of times Creationist terms and/or descriptors were used); (13) Use of “Fundamentalist” terms (presence of words Fundamentalist or Fundamentalism); (14) Use of “Fundamentalist” descriptors (specifically using the words Fundamentalist or Fundamentalism to describe ID proponents); (15) Fundamentalist count (number of times Fundamentalist terms and/or descriptors were used); (16) Scientific uncertainty, scientific acceptance or scientific denial; (17) Scientific vs. religious portrayal (whether the article generally treated the Intelligent Design movement/ID conference as a scientific or religious movement/conference); (18) Memorable quote (coders were asked to provide any sentence/statement from the article that was particularly grabbing, biting, poignant, etc.).

The final categories addressed the presence/absence of five frames: science, religion, education, political involvement and legal consequences. Coders also indicated the tone of frames, when the frames were present in the story. Also, coders were asked to indicate which one of these five frames was dominant.

Coders documented coding decisions on printed codesheets (Appendix A), whereby they coded the articles by hand, and the decisions were later entered into a statistical software package. The coders, two college graduates outside of the communications discipline, were given codebooks (Appendix B) containing all categories and specific instructions of how to code each article. Coders were instructed to work alone but consulted with the researcher when specific problems came up. Coders were told to read the article as many times as needed in order to analyze it accurately.

Coders analyzed a random sub-sample of roughly 5 to 10 percent of the sample (14 articles) to test intercoder reliability, which was 0.86, and was obtained using Holsti's formula. \* This sub-sample was randomly stratified in order to include hard news articles, editorials, columns and letters to the editors.

Omnibus tests of significance were conducted using cross-tabulations of the categorical variables and subsequent Chi-square tests of independence. The Cramer's V statistic was obtained to measure the strength of the association between categorical variables. Adjusted Standardized Residuals were obtained to determine where the most significant differences were in respective contingency tables. Adjusted standardized residuals (ASR's) act as z-scores and indicate significant differences between certain cells in a contingency table. ASR's greater than  $|1.96|$  are significant at an alpha level of .05.

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\* Intercoder reliability was calculated using Holsti's formula:  $IR=2M/(N1+N2)$ , where M is the number of agreements between the coders, N1 is the total number of coding decisions made by Coder 1 and N2 is the total number of coding decisions made by Coder 2.

## CHAPTER 4 RESULTS

A total of 266 articles were published and then made available on the Lexis Nexis database during the roughly four years of controversy over public school science standards in Ohio. The sample consisted of hard news articles (n=125), columns (n=42), editorials (n=24) and letters to the editor (n=77). Table 4-1 contains basic frequencies.

### **Article Tone**

Hypothesis one predicted that the tone of newspaper coverage of the Intelligent Design debate in public schools would be negative, and that tone would differ across news type. Hypothesis one was not fully supported, although negative coverage did outnumber positive coverage; the tone of the majority of the coverage was neutral (48.5%), followed closely by negative coverage (38.8%), and finally by positive coverage (12.3%). Also, the tone of the articles did not differ across article type quite as predicted. Please see Table 4-1 for these results.

The tone of the articles differed significantly across news type ( $\chi^2(6, N=268) = 153.207, p < .0001$ ), and the association was moderate to strong (Cramer's  $V = .536, p < .0001$ ). Adjusted standardized residuals indicate that hard news articles tended to be significantly neutral (86.4%), letters to the editor tended to be negative (55.8%) or positive (32.5%), and columns (69%) and editorials (73.9%) tended to be negative.

### **Frames**

Research question one asked if newspapers would frame the Intelligent Design debate in school boards more as science, religion, educational consequences, political

involvement, or legal consequences, and also which of these five frames would be dominant over all. Overwhelmingly, the most common central, organizing frame journalists used to cover the ID controversy in Ohio's public schools was science (present in 82.8% of the articles). Educational consequences was the next most common frame (present in 60.4% of articles), followed by Religion (51.5%) and Political Involvement (16.8%), and finally Legal Consequences (4.90%). In addition to listing all the frames present in the articles, coders also were asked to choose one of the five frames that was dominant overall. The most common dominant frame in the articles was Science (dominant in 48.9% of all articles). Educational Consequences was dominant in 25.9% of all articles, Religion in 16.5%, Political Involvement in 6.8%, and Legal Consequences was dominant in 1.9% of all articles.

Religion frames were overwhelmingly negative (74.1% Negative; 8.6% Positive; 17.3% Neutral), as were Science frames (57.4% Negative; 12.6% Positive; 29.6% Neutral). Educational Consequences frames were mostly neutral (51.2% Neutral; 37.2% Negative; 11.6% Positive), and so too were Political Involvement frames (77.8% Neutral; 20% Negative; 2.2% Positive). Legal Consequences frames were mostly neutral (50.0% Neutral; 35.7% Positive; 14.3% Negative). Please see Table 4-1 for these results.

### **Creationist and Fundamentalist Terms and Descriptors**

Research question two regarded the extent to which journalists used "Creationist" and "Fundamentalist" terms and descriptors in portraying the ID debate in Ohio's school board.

Creationist terms were present in roughly half (49.3%) of the articles in the sample, and Creationist descriptors nearly as often (43.3%). Fundamentalist terms were present in just 4.5% of all articles, and Fundamentalist descriptors were used in 3.0% of all

articles in the sample. Please see Table 4-1 for these results. Creationist terms were present in a majority of hard news articles (53.6%) and editorials (66.7%). Such terms were present in exactly half of all columns (50.0%), and in a minority of letters to the editor (36.4%).

Research question three asked whether “Creationist” and/or “Fundamentalist” descriptors/terms are frequent predictors of tone.

The presence of Creationist terms differed significantly across categories of article tone ( $\chi^2(2, N=267) = 7.78, p=.02$ ). The association between these two variables was moderate (Cramer’s  $V = .171, p=.02$ ). Roughly half (50.8%) of articles neutral toward ID contained Creationist terms, while more than half of negative articles (54.8%) contained Creationist terms. Adjusted standardized residuals suggest that the significant differences in this contingency table (see Table 4-3) lie in positive articles; Creationist terms were present in just 27.3% of articles positive toward ID.

The presence/absence of Creationist descriptors in articles covering the Intelligent Design movement was associated slightly more with article tone [ $\chi^2(2, N=267) = 10.97, p=.004$ ]; Cramer’s  $V = .203, p<.004$ ] than was the presence of Creationist terms. Approximately half of all articles negative toward ID (51%) contained Creationist descriptors, that is, they contained specific references to the ID movement or its proponents as “Creationist(s).” Again, the most significant differences in this cross-tabulation (see Table 4-4) lie in relation to positive articles; Creationist descriptors were present in only 18.2% of articles positive toward Intelligent Design. Because Fundamentalist terms were present in only 4.5% of all articles, cross-tabulation of presence/absence of such terms and article tone was not feasible.

### **Location of Publication and Treatment of the Intelligent Design Controversy**

Research question four asked if the location of the news source is a frequent predictor of overall article tone.

The tone of articles on the school-board controversy over ID differed for articles inside and outside the state of Ohio, although the relationship between these variables is somewhat modest [ $\chi^2$  (2, N=267) = 10.40,  $p=.006$ ]; Cramer's V = .197,  $p = .006$ ]. Forty-two percent of articles from publications outside Ohio were negative toward Intelligent Design, none were positive, and more than half (57.9%) were neutral. Regarding articles published inside Ohio, the distribution was somewhat more evenly divided; roughly half (46.2%) of articles published in Ohio were neutral, 38.1% were negative and 15.7% were positive. Please see table 4-5 for these results.

Research question five asked whether or not sources outside of Ohio were more or less likely to use Creationist and/or Fundamentalist descriptors.

The presence of Creationist terms differed between Ohio-based sources and those located outside Ohio ( $\chi^2$  (1, N=268) = 8.78  $p=.003$ ) and the association between these two variables was modest (Cramer's V = .181,  $p=.003$ ). Sources located outside Ohio used Creationist terms in coverage of the Intelligent Design controversy 66.7 percent of the time, while sources inside Ohio used such terms in just 44.5 percent of the articles. Please see table 4-6 for these results.

The relationship between the location of the publication and the presence/absence of Creationist descriptors was not as strong [ $(\chi^2$  (1, N=268) = 4.875,  $p=.027$ ); Cramer's V = .135]. Articles from sources within Ohio contained Creationist descriptors 39.8 percent of the time, while Creationist descriptors were present in 56.1% of articles from

sources outside Ohio. (Again, Fundamentalism terms and descriptors were not present in enough articles for contingency tables to be feasible). Please see table 4-7 for these results.

### **Scientific Uncertainty, Scientific Acceptance and Scientific Denial**

Research question six asked whether newspaper coverage of the Ohio school-board controversy would present ID with scientific uncertainty, scientific denial or scientific acceptance.

Newspaper articles covering the Intelligent Design controversy in Ohio's public schools generally presented ID as scientifically uncertain (42.5%), while a substantial minority of articles presented ID with outright scientific denial (37.3%). A small minority of articles (10.4%) presented ID with scientific acceptance. Please see Table 4-1 for these results.

Scientific acceptance vs. scientific uncertainty and denial differed across type of newspaper article ( $\chi^2(9, N=268) = 88.896, p < .001$ ) and the association between these two variables was substantial (Cramer's  $V = .333, p < .001$ ). Hard news articles generally presented the ID controversy in Ohio as scientifically uncertain (60.0%), but also presented the controversy with a substantial amount of scientific denial (17.6%). Very few hard news articles granted ID scientific acceptance (4.0%). Half of all letters to the editor (50.6%) presented ID with scientific denial, while a fourth (26.0%) granted ID scientific acceptance. Roughly a fifth (19.5%) of letters to the editor presented ID with scientific uncertainty. More columns presented ID with scientific denial (57.1%) than with scientific uncertainty (35.7%), and only a handful of columns extended scientific acceptance (7.1%) to ID during the Ohio controversy. Editorials were perhaps the most

skeptical of ID, as 62.5 percent cast scientific denial toward the movement. More than a third of all columns (37.5%) presented ID with scientific uncertainty, and not one (0.0%) presented ID with scientific acceptance. Please see Table 4-8 for these results.

### **Scientific vs. Religious portrayal**

Research question seven asked whether or not the ID debate in public schools would be portrayed more as a religious issue or as a scientific issue.

Newspaper articles covering ID controversy in Ohio's public schools generally portrayed ID as a scientific (41.4%) issue, but portrayed ID as a religious issue nearly as frequently (39.6%).

Table 4-1, Frequencies

	Percent	Number
Type of newspaper article		
News Articles	46.6%	125
Letters to the Editor	28.7	77
Editorials	9.0	24
Columns	15.7	42
Article tone		
Positive Tone	12.3%	33
Neutral Tone	48.5	130
Negative Tone	38.8	104
Location of article		
Inside Ohio	78.7%	211
Outside of Ohio	21.3	57
Presence of creationist terms		
Present	49.3%	132
Absent	50.7	136
Presence of creationist descriptors		
Present	43.3%	116
Absent	56.7	152
Fundamentalist terms		
Present	4.50%	12
Absent	95.5%	256
Scientific Acceptance vs. Scientific Uncertainty		
Scientific Uncertainty	42.5%	114
Scientific Acceptance	10.4	28
Scientific Denial	37.3	100
Unable to Tell	9.7	26
Scientific vs. religious portrayal		
Scientific	41.4%	111
Religious	39.6	106
Unable to Tell	17.9	48
Frames present in articles		
Religion	51.5%	138
Educational Consequences	60.4%	162
Political Involvement Frame	16.8%	45
Science Frame	82.8%	222
Legal Consequences	4.90%	13
Tone of frames		
Religion		
Negative	74.1%	103
Positive	8.60	12
Neutral	17.3	24
Educational Consequences		
Negative	37.2%	61
Positive	11.6	19
Neutral	51.2	84

Table 4-1, Continued

Political involvement		
Negative	20.0%	9
Positive	2.2	1
Neutral	77.8	35
Science		
Negative	57.4%	128
Positive	12.6	28
Neutral	29.6	66
Legal consequences		
Negative	14.3%	2
Positive	35.7	5
Neutral	50.0	7
Dominant frame in articles		
Religion	16.4%	44
Educational Consequences	25.7	69
Political Involvement	6.7	18
Science	48.5	130
Legal Consequences	1.9	5

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N=268

Table 4-2, Tone of Article across Type of News Article

Article Tone	Article Type			
	Hard News	Letters to the Editor	Columns	Editorials
Negative	n=15 12.0% ASR= -4.8	43 55.8% ASR= 2.4	29 69.0% ASR= 3.1	17 73.9% ASR= 2.7
Positive	2 1.6% ASR= -3.4	25 32.5% ASR= 5.0	5 11.9% ASR= -.10	1 4.3% ASR = -1.1
Neutral	108 86.4% ASR= 6.0	9 11.7% ASR= -4.7	8 19.0% ASR= -2.8	5 21.7% ASR= -1.9
n = Total	125 100%	77 100%	42 100%	23 100%

Chi Square (6, N = 267) = 153.207 p < .0001

Cramer's V = .536, p<.0001

Adjusted Residuals (ASR) > |1.96| are significant at  $\alpha < .05$

Table 4-3, Presence of Creationist Terms across Article Tone

Presence/Absence of Terms	Article Tone		
	Negative	Positive	Neutral
Creationist Terms Present	n=57 54.8% ASR= 1.4	9 27.3% ASR= -2.7	66 50.8% ASR= .4
Creationist Terms Absent	47 45.2% ASR= -1.4	24 72.7% ASR= 2.7	64 49.2% ASR= -.4
n = Total	104 100%	33 100%	130 100%

Chi Square (2, N = 267) = 7.78, p = .02  
Cramer's V = .171, p = .02

Adjusted Residuals (ASR) > |1.96| are significant at  $\alpha < .05$

Table 4-4, Presence of Creationist Descriptors across Article Tone

Presence of Creationist Descriptors	Article Tone		
	Negative	Positive	Neutral
Creationist Descriptors Present	n=53 51% ASR = 1.2	6 18.2% ASR = -2.2	57 43.8% ASR = .1
Creationist Descriptors Absent	51 49.0% ASR = -1.0	27 81.8% ASR = 1.9	73 56.2% ASR = -.1
n = Total	104 100%	33 100%	130 100%

Chi Square (2, N = 267) = 10.97 p = .004

Cramer's V = .203, p = .004

Adjusted Residuals (ASR) > |1.96| are significant at  $\alpha < .05$

Table 4-5, Location of Publication across Article Tone

Location of Publication	Article Tone			Total
	Negative	Positive	Neutral	
Publication Located in Ohio	n=80 38.1% ASR = -.2	33 15.7% ASR = 1.4	97 46.2% ASR = -.5	210 100%
Publication Located outside of Ohio	24 42.1% ASR = .4	0 0.0% ASR = -2.7	33 57.9% ASR = 1.0	57 100%

Chi Square (2, N = 267) = 10.97 p = .004

Cramer's V = .203, p = .004

Adjusted Residuals (ASR) > |1.96| are significant at  $\alpha < .05$

Table 4-6, Location of Publication across Presence of Creationist Terms

## Presence/Absence of Creationist Terms

Location of Publication	Creationist Terms Present	Creationist Terms Absent	Total
Publication Located in Ohio	n=94 44.5% ASR = -1.0	117 55.5% ASR = 1.0	n=211 100%
Publication Located outside of Ohio	38 66.7% ASR = 1.9	19 33.3% ASR = -1.8	n=57 100%

Chi Square (1, N = 268) = 8.783,  $p = .003$

Cramer's V = .181,  $p = .003$

Adjusted Residuals (ASR) > |1.96| are significant at  $\alpha < .05$

Table 4-7, Location of Publication across Presence of Creationist Descriptors

Location of Publication	Presence/Absence of Creationist Descriptors		Total
	Creationist Descriptors Present	Creationist Descriptors Absent	
Publication Located in Ohio	n=84 39.8% ASR = -.8	127 60.2% ASR = .7	n=211 100%
Publication Located outside of Ohio	32 56.1% ASR = 1.5	25 43.9% ASR = -1.3	n=57 100%

Chi Square (1, N = 268) = 4.875,  $p = .027$

Cramer's V = .135,  $p = .027$

Adjusted Residuals (ASR) > |1.96| are significant at  $\alpha < .05$

Table 4-8, Scientific Acceptance/Uncertainty across Article Type

Scientific Uncertainty Vs. Scientific Acceptance	Article Type			
	Hard News	Letters to the Editor	Columns	Editorials
Scientific Uncertainty	n=75 60.0% ASR = 3.0	15 19.5% ASR = -3.1	15 35.7% ASR = -.7	9 37.5% ASR = -.4
Scientific Acceptance	5 4.0% ASR = -2.2	20 26.0% ASR = 4.2	3 7.1% -.7	0 0.0% ASR = -1.6
Scientific Denial	22 17.6% ASR = -3.6	39 50.6% ASR = 1.9	24 57.1% ASR = 2.1	15 62.5% ASR = -2.0
Unable to Tell	23 18.4% ASR = 3.1	3 3.9% ASR = -1.6	0 0.0% ASR = -2.0	0 0.0% ASR = -1.5
n = Total	125 100%	77 100%	42 100%	24 100%

Chi Square (9, N = 268) = 88.896,  $p < .001$

Cramer's V = .333,  $p < .001$

Adjusted Residuals (ASR) > |1.96| are significant at  $\alpha < .05$

## CHAPTER 5 DISCUSSION

Overall, newspaper coverage of the Intelligent Design controversy in public schools was fairly balanced. Roughly half of all coverage was neutral, and the remaining half was either negative or positive. When Martin et al. (2004) examined the universe of major newspaper coverage of the ID movement, they found that the majority of the coverage was negative. The current study seems to suggest, then, that media coverage of ID is becoming somewhat more objective or, at least, was somewhat more objective in the case of Ohio.

Hard news articles tended to be overwhelmingly neutral, editorials, columns and letters to the editor tended to be more negative than positive. Martin et al. found similar results, although letters to the editor in their study tended to be strongly positive toward Intelligent Design, a trend which possibly suggests public support for ID. In the case of Ohio, however, letters to the editor published in major newspapers did not seem to parallel public opinion as closely as one might have anticipated (after all, a Gallup poll cited earlier in this paper suggested that 65 percent of Ohioans favored the inclusion of ID in public school curricula). A seemingly large number of academics weighed in on the debate; one biochemist from Ohio State University said that “there is no . . . scientific literature supporting the concept of Intelligent Design,” (Schoenberg, 2000, p.2). Another professor, one of entomology, proclaimed that “Evolutionary theory receives virtually unanimous support among scientists in general,” (Wenzel, 2004, p.1).

Perhaps fewer Ohioans supported the idea of Intelligent Design in public schools than did residents of Kansas and Alabama, where similar controversies unfolded. Ohio may be less of a religious stronghold than these two states. Still, there was a marked difference between the tone of editorials and that of letters to the editor, suggesting a substantial difference between public support for ID and support from journalists. Since editorials are the collective views of newspapers, some researchers (see Hindman, 2003) have used editorials to gauge media opinion on certain topics. In the case of the Intelligent Design controversy in Ohio's public schools, the collective, journalistic stance on ID's presence in public schools was noticeably different than that expressed in letters to editors of major newspapers. One *Columbus Dispatch* editorial ("Don't Compromise," 2002, March 12) flat-out called Intelligent Design "unscientific," while referring to Darwinian evolution as strict science. Another editorial in *The New York Times* ("Darwinian struggle in Ohio, 2002, March 17) admonished that, "No theory" advocating "the supernatural," belongs in public schools.

A 2002 Gallup poll conducted in Ohio suggested that a majority of Ohioans supported the inclusion of Intelligent Design in public schools, yet the majority of letters published on this topic were critical of the movement. A greater percentage of letters to the editor, however, were positive than that of hard news coverage, columns or editorials. This likely represents the differences between Ohioans' feelings about ID's inclusion in public school curricula and that of journalists'.

In terms of framing, "Science" was the central, organizing theme used to present the Intelligent Design controversy in Ohio's public schools. One *New York Times* article (Glanz, 2002) devoted 708 words to describing the scientific arguments that one Case

Western Reserve University professor and ID advocate makes. This was common in the articles; journalists frequently covered the scientific positions of advocates on either side of the controversy.

Friedman, Dunwoody and Rogers (1999) complained that journalists present new scientific movements with unwarranted certainty. They did not, however, act as casually in the case of the Ohio controversy. So while journalists mainly discussed the scientific evidence surrounding ID, they did so with skepticism and without giving the movement undue credit. For example, in *The New York Times* article cited above, Glanz (p.1) discussed an ID proponents' idea, but also criticized him by saying "he drifted outside his field and began proposing radical revisions to some basic laws of physics." In this case, Glanz appears to have overstepped his journalistic role, but much of the coverage of the ID controversy was scientifically skeptical and harsh in this way. Starr (2002) argued that editors, as well as professors in journalism schools, have recently emphasized the importance of detailed and quality science reporting, a genre of journalism that is growing. The results of this study seem to support Starr's assertion in a mixed way; skeptical scientific exposition was evident in much of the coverage of the ID controversy in Ohio, but sometimes that coverage was harsh to proponents on one side of the debate.

"Educational Consequences" was the next most common organizing theme present in the articles. This may help explain why the coverage was, overall, reasonably balanced; journalists tended to discuss the scientific pros and cons of the ID controversy in terms of scientific evidence. Journalists also discussed the educational implications of the scientific controversy in mainly descriptive, not speculative, terms. One *Washington Post* article's (2002, p.1) headline read, "Ohio may debate evolution in schools; theory's

flaws could be taught,” and this article framed ID in terms of its educational consequences.

Religion frames were also present a great deal in the articles. This makes sense; Intelligent Design is an inherently religious idea, and coverage of the controversy drummed up heavy questions. One article (“Matters of fact vs. matters of faith,” p.1, 2002, June 4, p.1) which contained a religion frame asked, “Could a guiding force be behind evolution? Of course, but . . . the Intelligent Design theory merits discussion in a philosophy or religion class, where discussions of faith, belief and other nonscientific inquiries into life’s mysteries are appropriate.”

Journalists did not frequently employ “Political Involvement” and “Legal Consequences” as central organizing themes of stories. This may also be a good thing; journalists discussed ID in terms of its scientific merits and in terms of the educational implications of its inclusion in public schools.

In terms of the tone of the frames, Science and Religion frames tended to be more negative than positive—something that may again reflect the uncertainty with which reporters approached the ID controversy—and Educational Consequences, Political Involvement and Legal Consequences frames tended to be neutral. That Religion frames were by far the most negative, central organizing theme used to present the ID controversy lends itself to the fact that ID proponents describe ID as a scientific discipline with scientific merits. ID adherent William Dembski (2004) argues that although ID is religious in nature, it is a scientific, not a religious, idea. It makes sense, then, that attempts to frame ID as a Religious movement would be negative. One column from *The Columbus Dispatch* (Lauritzen, 2002, p.13) contained Religion as the dominant

frame and demanded, “Intelligent Design isn’t just bad science, it isn’t science at all.” Gitlin (1980, p.7) claimed that frames are “largely unspoken and unacknowledged,” and they “organize the world for both journalists who report it and, in some important degree, for us who rely on their reports.” The central organizing themes emphasized in the articles covering the ID controversy seemed to help organize this “world” for the journalists and possibly for consumers who were exposed to coverage of this world. Journalists do, however, tend to “organize” the “world” in different ways by selecting some aspects of an issue for presentation over others. In the case of ID, journalists tended to select scientific aspects surrounding the movement, as well as aspects involving the educational consequences of ID.

While it appears that journalists did a fairly decent job maintaining balance in their coverage of the ID controversy in public schools, they managed to do so without using the most ostensibly neutral language to describe ID. Half of the articles under examination in this study contained “Creationist” terms, and more than 40 percent of articles contained “Creationist” descriptors. An example of a Creationist term can be found in an article from *The Columbus Dispatch* (Lore, 2002, February 10, p.1), when an ID advocate was explaining his position: “We’re not a Creationist group; we don’t want Creationism in the schools.” Creationist descriptors, however, were more direct, like the following tag applied to ID in a *Chicago Sun Times* article (“Public schools are no place for the 4<sup>th</sup> ‘R,’” 2002, February 17, p.1). : “Creationism . . . now going by the name Intelligent Design.” ID proponents typically defy this nomenclature and, indeed, many of the articles mentioned the differences between ID adherents and their Creationist

predecessors. More than four in ten articles, however, specifically described either ID advocates or the ID movement itself as “Creationist.”

Fundamentalist terms and descriptors were much less common and were, in fact, negligible. One reason for this may lie in the common use of the term “fundamentalist.” This word is commonly employed to describe fundamentalist Islam, and journalists may be less likely to casually apply it to ID proponents. The whole of Intelligent Design coverage from the late 80s to 2003 contained “fundamentalist” terms in roughly 12 percent of its coverage (Martin et al., 2004), but such terms were far less common in the current study.

One reason that ID proponents shy away from Creationist and fundamentalist labels is that they claim such terms are loaded and preclude journalistic balance. Cross-tabs of the presence/absence of Creationist terms and article tone seem to bolster this assertion. Articles containing Creationist terms were far more likely to be negative than positive. The presence of Creationist descriptors was even more strongly associated with article tone. When Walter Lippmann (1922) made common the word “stereotypes” as tools journalists use to classify groups of people and to avoid detailed descriptions of group members, he was referring to this kind of categorization. Many headlines of the articles in this sample which were negative contained categorical, Creationist descriptors, like the following headline from a *Columbus Dispatch* article (Durbin, 2000, April 15): “Creationism doesn’t meet criteria for science classes.” Whether a large number of journalists are deliberately applying these labels to ID proponents to shed doubt on the movement or whether these labels are simply useful ways to convey the religious

advocacy among ID's followers, such words appear to affect the overall tone of the coverage.

Another aspect of major newspaper coverage of the ID controversy that apparently affected the tone of the coverage was the location of the publication. Newspapers outside Ohio were slightly more likely to publish articles negative toward the ID movement or, at least, treated ID negatively in terms of the Ohio controversy. Amazingly, one article from *The Boston Globe* (Falk, 2001, p.1) which was supposed to be hard news, had a headline describing ID as a "pseudo-scientific challenge to evolutionary theory." Not one article from outside Ohio was positive to ID in terms of the controversy in Ohio. In Dayton County, Tennessee in 1925, when the Scopes trial brought the Darwinian evolution controversy taking place in public schools to national attention, many elite journalists traveled to Tennessee to cover the story. Many of these journalists were disdainful of the positions taken by Creationists in Tennessee, and one journalist in particular, H.L. Mencken, brutally ridiculed the "Bible-thumpers" in the land he would eventually dub the "Bible belt." One imagines, although one cannot be sure, that coverage of the Scopes Trial by newspapers in Tennessee might have been somewhat more temperate than the coverage of outside journalists like Mencken and others.

Proximity seems to matter in journalism. The closer journalists get to a given controversy, the more moderate and, sometimes, the more favorable their coverage of the controversy becomes. Take the stroke of brilliance exercised by Bush administration officials by embedding American journalists in Iraq during the first five weeks of conflict in spring 2004; these journalists saw up close the determination exhibited by American

men and women in the armed forces. Coverage from these journalists was positive at times and, even sometimes, fawning.

In the case of ID in Ohio, though, the influence of proximity on the tone of the coverage may have been mediated by the fact that a majority of Ohioans supported ID's inclusion in public school curricula. These Ohioans did, after all, write a great deal of letters to the editor expressing such support, while letters on the Ohio controversy were very rarely published, say, in the *Pittsburgh Post-Gazette* or *The New York Times*.

Whatever the mediating factors, though, articles outside of Ohio were harsher on ID and on its potential inclusion in public schools. One hard news article from *The Australian* (2002) offered a headline that snidely remarked that the Ohio controversy was "unholy."

In line with the findings on publication location and article tone, articles located outside of Ohio were much more likely to use Creationist terms and descriptors. This again suggests, albeit it indirectly, that Creationist terms and descriptors share an association with negative coverage of the ID controversy in Ohio. Journalists in Ohio were less likely to use purportedly loaded terms to describe ID and its proponents, while journalists outside the state were more likely to use such stereotypical terms that Lippmann (1922) decried in *Public Opinion*. In an article published in *The Ottawa Citizen*, one journalist used Creationist terms and descriptors six times in discussing the ID controversy. An article in *The Observer* used such terms seven times.

The question of whether journalists presented ID with scientific uncertainty, scientific acceptance or scientific denial was mentioned a bit earlier in this discussion; journalists tended overwhelmingly to present ID with scientific uncertainty or outright scientific denial. This type of coverage consisted of just under eight tenths of the entire

sample. Ten percent of the articles presented ID with scientific acceptance. The facts that journalists were highly skeptical of ID during the Ohio controversy and few articles seemed to extend scientific acceptance to the theory may suggest one of two things. First, it may suggest that, unlike the claims of Wilkins (1999) and others (see also Singer & Endreny, 1993), journalists are turning away from their old habits of lending undue credence to new scientific developments in general. These findings may very well, however, suggest that journalists were less accepting of the scientific claims of Intelligent Design in particular. Intelligent Design carries with it undeniably religious implications, and journalists are generally less religious than the average American. It may make sense, then, that journalists treated the ID controversy with less certainty than they frequently grant other scientific movements.

While journalists presented ID in the Ohio controversy with perhaps more scientific denial than they should have, hard news articles, more than any other article type, presented ID with scientific uncertainty. This suggests again that journalists did a fairly good job of maintaining balance in hard news coverage of the ID controversy. Letters to the editor were much more likely to extend scientific acceptance to Intelligent Design during the controversy than were either columns or letters to the editor. This again indicates a rift between public opinion about the ID controversy and journalists sentiments about the debate. Thankfully and for the most part, journalists were able to keep these sentiments about ID out of hard news coverage.

Newspaper articles covering the Intelligent Design controversy in Ohio's public schools tended to portray the debate as one of science, and portrayed the debate as one over religion almost as often. This is interesting for several reasons. First, the actual

debate that took place in the school board was largely scientific. In fact, according to some members of the Ohio school board and professors who testified before the school board, religious arguments and debate over religion were invoked somewhat infrequently during the hearings before the board. Journalists, though, portrayed the ID debate as one over religion as frequently as they portrayed the debate as over science. The controversy between Intelligent Design and Darwinian Evolution inevitably energizes —almost viscerally— some of life’s most fundamental questions (Why am I alive?; Who or what created me?; What process created me?) and, perhaps, is different from virtually any other controversy. Journalists could not seem to keep from proposing some of these religious and philosophical questions in their articles and, in so doing, portrayed the ID controversy as one of religious debate. What is also interesting here is the parity between the portrayal of the debate as one over science and religion. ID proponents cannot deny, and indeed do not deny, the religious implications of their theory. These advocates are, generally speaking, religious individuals who practice science both inside and outside of the academic community as a way to confront Darwinian evolution. They are, then, scientists who use evidence to oppose naturalistic evolution and evidence which supports the notion of a Creator, a religious argument. This parity journalists offered during the Ohio controversy, then, may be a somewhat accurate reflection of what the debate over life’s origins actually is. So, while portraying the controversy in Ohio as one over religion may not have perfectly mirrored reality in the Buckeye State, this portrayal may have been fair and realistic in terms of the ID debate as a whole.

### **Limitations**

In a perfect world, this study would have been able to analyze TV news coverage of the ID controversy in Ohio as well as print newspaper coverage. One might predict that

televised coverage would emphasize less the scientific and religious aspects of ID and instead discuss the movement in terms of educational consequences and public policy, but this is only speculation. It was not possible to examine televised coverage in this study because of financial and time constraints.

In addition to coverage on the controversy in Ohio, it seems desirable to consider coverage from a similar controversy in Texas. It would be interesting to compare coverage of ID from a progressive state like Ohio with coverage from a southern, more conservative state like Texas. Again, time constraints precluded this comparison.

Future research might also include a category on the codesheet that looks at the philosophy of the origins of life in some way. Many of the articles in this sample, particularly letters to the editor, exhibited philosophizing on the part of the letter writer or journalist. The origins of life debate forces many people to ask deep, philosophical questions, and I think the consistent presence of such pensiveness in the sample warrants investigation. The ID controversy is somewhat forceful as well as unique in the questions it raises, and it might be interesting to examine patterns of such deep questions in journalistic coverage of the movement.

### **Future Research**

Future research should look at more than just newspaper coverage of ID and related controversies. Local news affiliates in Ohio likely covered the ID controversy on a consistent basis; the controversy did, after all, drag on for several years. Other research in the future may want to test some of the coverage of ID and related controversies using experimental designs. For example, because some of the current research on media and religion does not clearly demonstrate whether words like “Creationist” and “Fundamentalist” are definitively negative, researchers might want to test identical

articles using pretest and posttest designs with the presence of “Creationist” and/or “Fundamentalist” manipulated as an independent variable.

APPENDIX A  
CODESHEET

- 1) **Coder Name** \_\_\_\_\_
- 2) **Number:** Please enter the number of the article you are coding (001, 101, 202, etc.)  
— — —
- 3) **Date:** Please enter the 6 digit date on which the article was published  
— — — — —
- 4) **Publication:** Please enter the name of the publication in which the article was published.  
\_\_\_\_\_
- 5) **Location:** Please circle whether the publication is located in the state of Ohio or somewhere else:  
0) Ohio  
1) Outside of Ohio
- 6) **Word count:** Please indicate how many words the article consists of:  
— — — —
- 7) **Article type:** please indicate which type of news article you are coding:  
0) Hard news  
1) Letter to the editor  
2) Column  
3) Editorial
- 8) **Article placement:** Please indicate on which page of the publication the article was published:  
\_\_\_\_\_
- 9) **Headline:** Please write, verbatim, the headline of the article.  
\_\_\_\_\_
- 10) **Article tone:** Please indicate if the article was, overall, negative, positive or neutral toward the Intelligent Design movement.

- 0) Negative
- 1) Positive
- 2) Neutral

11) **Creationist Terms:** Please indicate whether the article contained the terms “Creationism,” or “Creationist(s).”

- 0) No
- 1) Yes

12) **Creationist Descriptors:** Please indicate whether the article used the terms “Creationism,” or “Creationist(s) specifically to describe the Intelligent Design movement or its proponents.

- 0) No
- 1) Yes

13) **Creationist Count:** Please indicate how many times the article used “Creationist” terms/descriptors.

— —

14) **Fundamentalist Terms:** Please indicate whether the article contained the terms “Fundamentalist(s)” or “Fundamentalism.”

- 0) No
- 1) Yes

15) **Fundamentalist Descriptors:** Please indicate whether the article used the terms “Fundamentalist(s)” or “Fundamentalism” specifically to describe Intelligent Design movement or its proponents.

- 0) No
- 1) Yes

16) **Fundamentalist Count:** Please indicate how many times the article used “Fundamentalist” terms/descriptors.

— —

17) **Scientific Acceptance vs. Scientific Uncertainty:** Please indicate whether the article generally presented the Intelligent Design movement with scientific acceptance or uncertainty.

- 0) Scientific Uncertainty
- 1) Scientific Acceptance
- 2) Scientific Denial

18) **Scientific vs. Religious portrayal:** Please indicate whether the article portrayed the Intelligent Design movement as a scientific controversy or a religious one.

- 0) Religious
- 1) Scientific

19) **Memorable Quote:** If the article contained a particularly humorous, sarcastic, poignant, or clever statement/quote of any kind, please record it here:

20) **Frames:** Please indicate which, if any, of the following frames are among the central, organizing concepts of the story:

- 0) Religion
- 1) Education
- 2) Political Involvement
- 3) Science
- 4) Legal consequences

21) **Tone of Religion Frame:** If a religion frame was present, please indicate the tone of the frame:

- 0) Negative
- 1) Positive
- 2) Neutral

22) **Tone of Educational Consequences Frame:** If a religion frame was present, please indicate the tone of the frame:

- 0) Negative
- 1) Positive
- 2) Neutral

23) **Tone of Political Involvement Frame:** If a political involvement frame was present, please indicate the tone of the frame:

- 0) Negative
- 1) Positive
- 2) Neutral

24) Tone of Science Frame: If a science frame was present, please indicate the tone of the frame:

- 0) Negative
- 1) Positive
- 2) Neutral

25) Tone of Legal Consequences Frame: If a legal consequences frame was present, please indicate the tone of the frame:

- 0) Negative
- 1) Positive
- 0) Neutral

26) **Dominant Frame:** Please indicate which of the five frames is dominant. PLEASE CHOOSE ONLY ONE

- 0) Religion
- 1) Educational Consequences
- 2) Political Involvement
- 3) Science
- 4) Legal consequences

## APPENDIX B CODEBOOK

Please read the article from beginning to end and answer the questions on the codesheet in the following way. Please feel free to read the article as many times as needed to accurately analyze the content. Also, if questions or coding problems should come up, please contact the author of this paper with your concerns (martinjd@ufl.edu).

**Coder name:** Please enter your first name.

**Article number:** Please enter the number of the article you are coding. Each article in the sample was saved as a unique number; please enter that number here.

**Article date:** Please enter the 6 digit number specifying the date the article was published (“010104,” for January 1<sup>st</sup>, 2004, e.g.).

**Publication:** Please enter the name of the publication in which the article ran. Do not use capitals, italics or the word “the.”

**Location:** Please indicate whether this publication is located in the state of Ohio or whether the publication is located outside of Ohio.

**Word count:** If you are coding an electronic copy of an article, please copy and paste the text of the article into Microsoft Word, select “tools,” “word count” and then enter this number. If you are coding a print version of the article, please give your best estimate, to the ten (370, 230, etc.) of how many words the article contains.

**Article type:** Please specify the type of article you are coding. Indicate either hard news, column, editorial or letter to the editor. Hard news typically begins with an inverted pyramid lead and serves to objectively report a development of some kind. Columns are opinion pieces written by a specifically named individual. Editorials are the collective opinions of the publication and do not have one specific author. Letters to the editor are reader responses.

**Location:** Please indicate the section and page of the publication in and on which the article appeared. For instance, if the article appeared on page 17 of the metro section, please record “metro 17.” If the page (say, page 10) of the article is

known but not the section, please record “z 10.” If neither is known, simply record “z.”

**Headline:** Please provide, verbatim, the headline of the article. Do not use capitals or punctuation of any kind.

**Overall tone:** Please indicate whether the article covering the school board debate was, overall, negative, positive, or neutral toward the Intelligent Design movement. Please do not immediately assume that an article is neutral. Many of the articles will, of course, be neutral and unbiased toward the Intelligent Design movement, and it is only appropriate to label them thus. That said, though, coding mass media messages for tone is a somewhat ambiguous coding decision. After you’ve read the entire article, reread the headline. Headlines, while frequently not written by the journalist themselves and not always indicative of the news that follows, can often help in coding articles for tone. Headline writers try hard to capture the main sentiment of the article and, therefore, headlines can be helpful. Next, look at the sources cited in the article. Journalistic fairness frequently hinges on the type and number of certain sources cited in an article. If three sources friendly to the ID movement are cited in the article, but only one source critical or skeptical of the movement is offered, this imbalance may lend support to the notion that the article is ‘positive.’

Throughout the article, pay attention to diction. That is, pay attention for loaded words. You are also asked to code for “Creationist” and “Fundamentalist” descriptors. These words are often loaded and can aid you in your decision.

Researchers understand that coding media messages for tone can be difficult for even the most trained readers. Simply try your best, though, to make careful decisions, and try to make such decisions in a consistent manner. Remember, you can contact the researcher whenever you have questions.

**Use of “Creationist” terms:** Please indicate whether the article contained the terms “Creationism,” or “Creationist(s).”

**Use of “Creationist” descriptors:** Please indicate whether the article used the terms “Creationism,” or “Creationist(s) specifically to describe the Intelligent Design movement or its proponents.

**“Creationist” count:** Please indicate how many times the article used “Creationist” terms/descriptors.

**Use of “Fundamentalist” terms:** Please indicate whether the article contained the terms “Fundamentalist(s)” or “Fundamentalism.”

**Use of “Fundamentalist” descriptors:** Please indicate whether the article used the terms “Fundamentalist(s)” or “Fundamentalism” specifically to describe Intelligent Design movement or its proponents.

**“Fundamentalist” count:** Please indicate how many times the article used “Fundamentalist” terms/descriptors.

**Scientific acceptance, scientific uncertainty, or scientific denial:** Please indicate whether the article generally presented the Intelligent Design movement with scientific acceptance or uncertainty. This judgment should generally be based on whether or not the article presents Intelligent Design as a valid alternative to Darwinism. Ask yourself, “is the journalist presenting ID as an organized, legitimate challenge to evolution? Is the journalist depicting the movement as scientifically uncertain? Is the journalist presenting the movement with scientific denial?” If the article appears neutral and presents ID as a plausible alternative to evolution, select “scientific acceptance.”

**Scientific vs. religious portrayal:** Please indicate whether the article portrayed the Intelligent Design movement more as a scientific controversy or a religious one. This is a more subjective category. However, if the article mentions the academic credentials of the speakers (such as holding a PhD or a lectern at a college or university) then the classification may be scientific. If, on the other hand, the article refers to ID specifically as a religious movement and/or “philosophical” and “theological,” the classification should be religious.

**Memorable quote:** If the article contained a particularly humorous, sarcastic, poignant, or clever statement/quote of any kind, please record it here.

**Frames:** Please indicate which, if any, of the following frames are among the central, organizing concepts of the story: religion, science, educational consequences, political involvement and legal consequences. More than one of these frames can be present in any given story. When deciding whether or not a certain frame is present, ask yourself “is this concept central to the story’s organization?”

**Religion frame:** Articles containing a religion frame, for instance, will present Intelligent Design as a religious issue. Religion frames are present if the article offers a discussion of the religious implications of ID as a central, organizing theme of the story. Such an article may discuss religious individuals’ support for ID. Often, but not always, the religion frame is hinted at in the headline of the article or the articles’ lead paragraph, which will sometimes mention the efforts of religious proponents of the ID movement.

**Science frame:** Articles centrally organized by a science frame will generally discuss the scientific merits of one or both sides of the ID debate. A science frame is present, for example, if an article criticizes the scientific tenets of Intelligent Design, but is also present if it discusses ID’s merits, or both pro’s and con’s.

**Educational consequences frame:** Articles containing an educational consequences frame will present the educational implications of ID as a central, organizing part of the story. Articles discussing educational consequences need not be only negative. Indeed, one article may describe the educational downfalls of deemphasizing evolution, while another might describe the educational advantages of having alternative points of view in Ohio's science classrooms. Other articles might describe both consequences and be neutral.

**Political involvement frame:** Articles containing a political involvement will usually discuss Ohio citizens' efforts to include ID in the state's science curriculum via influencing the political process or persuading political officials. It may discuss the efforts of small groups of individuals, like churches, or, it may discuss the efforts of large groups, like the Boy Scouts of America, or the Family Research Council. In the same way, articles may also discuss the efforts of opponents of ID to keep the theory out of Ohio's classrooms. Such articles might discuss pressure being put upon school board members, state legislators, education commissioners, or even Ohio's gubernatorial administration. Indication of the political involvement frame, however, is in no way limited to these specific circumstances.

**Legal consequences frame:** Articles presented within a legal consequences frame will, quite simply, discuss the legal consequences of the decision to be made by the school board of Ohio. Legal consequences frames will generally present the Intelligent Design debate as well as the controversy in Ohio's public schools as issues between church (or religious individuals) and the state. Articles organized within a legal consequences frame, however, may not discuss the church/state issue. Instead, such articles might only discuss the threats of some pro/anti ID groups to sue or take legal action following a certain decision. It may also discuss the issue of amending the state constitution or otherwise changing statutes, but not discuss the church/state issue. Articles packaged within a legal consequences frame need not be negative or antagonistic to intelligent design. However, any article which presents the Intelligent Design controversy within the framework of a legal debate is one presented within this frame.

**Tone for each present frame:** For each frame that is present within the news story, please indicate if the tone of that frame was negative, positive or neutral. Specifically, return if need be to parts of the story that led you select a certain frame as present. Then, ask yourself if that religious, scientific, organization, etc., of Intelligent Design was negative, positive or neutral.

**Dominant frame:** Please indicate which of the five frames is dominant. Ask yourself, "of the frames that are present, which one is the main, central organizing part of this news story?" PLEASE CHOOSE ONLY ONE.

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## BIOGRAPHICAL SKETCH

Justin D. Martin was born in Washington, Pennsylvania. Family members include parents Rev. William J. Martin and Sandra H. Martin, and sisters Ashley and Kelley. Justin earned a B.S. in psychology from High Point University in December 2002. Justin plans to pursue a Ph.D. in Mass Communications and an undergraduate minor in Arabic. He currently resides in Gainesville with his dog, Samson, who frequently makes poor decisions.