

DARWINISM, DICHOTOMIES AND DEMOCRACY:
THE RHETORIC OF INTELLIGENT DESIGN CREATIONISM

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ABSTRACT

The Intelligent Design creationist movement seems to capture the interest of those who study rhetoric as a means to address one principal question: How can an argument so factually bankrupt as the neo-creationist narrative persuade so many people? This thesis is not an attempt to offer a comprehensive answer to this query, but instead to explore one of the many rhetorical devices employed by the Intelligent Design advocates themselves: the appeal to the either-or fallacy that suggests that all evidence against the position they seek to call into question (biological evolution) necessarily supports Intelligent Design. Logically, this argument can only claim cogency if there exist only two argumentative alternatives. As this is not the case (any number of alternatives besides Darwinian evolution and biblical creationism, or “Intelligent Design,” as it is now known, could be considered), Intelligent Design advocates simply structure their arguments to represent the idea that it is, in fact, the case; that rather than a range of possible explanations for the existence and diversity of life, the individual must choose between the present scientific explanations and the biblical explanation. This misrepresentation is disingenuous and deceptive, but it is also highly effective. Why? I will argue that the two-party democratic tradition in which the American citizen is raised trains her to see that: 1) There are two rather than many sides to a discussion; 2) The two positions are of relatively equal merit; and 3) Evidence against one position supports the other. The natural extension of this is that Intelligent Design creationists can win a debate simply by taking advantage of terms that present their arguments in a more favorable light than that for which there is factual warrant.

EVIDENCE FOR GOD AND FREE FOOD: DINNER WITH THE CREATIONISTS

As I was walking across the UNC Wilmington campus one afternoon in May, 2007, I came across the titular provocative offer of “Evidence for God—and Free Food, Thursday, 6:00” written in day-glow hued chalk on the sidewalk in front of Randall Library. As both a skeptic regarding theological assertions and a sucker for free food, I was powerless to resist. But as importantly, in this very old ontological argument, I was hoping for was something genuinely new or provocative, or at least sophisticated—perhaps a nuanced argument regarding anthropic principles (the idea, advanced by many theologians and a few scientists, that the universe was somehow predisposed, or “seeded” for life). I wanted evidence for a big God—the kind of God Einstein referred to, the metaphor that physicists use for the awesome grandeur of the universe. And I was hoping for pizza.

What I got, instead of nuanced argument or pizza, was a first-person confirmation that young-earth or “special” (in reference to the creation of species) creationism, which holds that the earth is less than ten thousand years old and that biological entities on earth were suddenly created essentially in their present forms, is a thriving movement among evangelical Christians in the U.S., and that local proponents of the young-earth model (a fundamentalist group by the name of Pneuma—“breath of God,” apparently, in Greek) had rented out a room in the biology building so that I could find out, courtesy of a pamphlet by influential Australian creationist Ken Ham, “what REALLY happened to the dinosaurs.” (Apparently they survived aboard Noah’s ark and went extinct as recently as the 17th century, thus neatly accounting for all the medieval dragon lore. Who knew?) After pocketing a few more pamphlets as evidence of my foray into enemy ground, I snuck out of the room before the night’s film presentation began: the audience that

evening was going to be treated to *Unlocking the Mystery of Life: The Scientific Case for Intelligent Design*, a piece of anti-evolution propaganda produced by activist Bruce Chapman's Discovery Institute, the conservative Seattle-based Christian think tank which uses its considerable influence and finances to back creationist endeavors nationwide (particularly in the public school classroom) under the mantle of Intelligent Design (hereafter "ID")—the movement frequently imagined to have gained impetus with the publication of UC-Berkeley law professor Phillip Johnson's 1991 anti-evolution manifesto, *Darwin on Trial*.

Ending Where We Started: A Permutation of Creationism

The experience with Pneuma closed a circle of sorts for me: I had begun my investigation into ID with what I hope was an open mind. I was highly skeptical of the movement's assertions, but was also leery of mainstream scientists' such as physicist Adrian Melott's common dismissal of it as "creationism in a cheap tuxedo." I truly wanted to see what ID might legitimately have to contribute to the interaction of metaphysics and empiricism—a third path, perhaps, which traditional creationism could not provide or had not provided: what ID advocates Arthur Jones and David Tyler refer to as "a way into the topic that avoids the stereotyped and unhelpful creationist/evolutionist polarisation" (223). But despite my best efforts to conclude that there was something novel about ID's intellectual content, I found, ultimately, that it was—creationism in a cheap tuxedo. Not a single argument ID employs is new to ID: each and every one—from the complexity of the bacterial flagellum to misapplications of the law of entropy—can be located in creationist literature prior to ID's "birth" in the late 1980s.

Thus, we ought not be surprised that young-earth creationists take advantage of ID materials like the video mentioned above, because the differences between the two concepts are overstated and thoroughly overshadowed by their common agenda. Or, put more specifically, the relationship is a nested one in which young earth creationism sits under the aegis of ID, although many ID advocates are not young-earth creationists. While ID advocates like to play up the alleged differences between the two ideas just described, as a matter of political strategy, in order to distance themselves from constitutionally prohibited earlier forms of their movement (such as the creation science of the 1960s and 70s), as soon as law courts turn a blind eye, ID and every other permutation of creationism leap swiftly back into bed. This political strategy of ostensible divorce from the past is understandable, given the uninterrupted string of disheartening legal setbacks that the creationist movement has suffered: Beginning with the U.S. Supreme Court Decision *Epperson v. Arkansas* in 1968 (which established a nationwide prohibition against anti-evolution-teaching statutes on First Amendment grounds), and culminating most recently in 2005's *Kitzmiller et al v. Dover Area School District* (a Pennsylvania district court case in which ID was ruled unconstitutional, inherently religious, and unscientific), federal courts have repeatedly sent the message that either overt (or covert, but transparent) religious challenges to the teaching of natural science will be coolly received by them (Rotunda 1077-1084).

What ID actually represents, by the admission of its own advocates, is a big-tent approach in which day-age creationists (those who accept the creation days of Genesis as metaphorical, and hence the possibility of a very old earth) and gap creationists (those who believe that there was a massive time lapse between the Genesis cosmological creation story and the fall of man, again conceding the ancient earth) as well as young-earth creationists may pool their resources in opposition to naturalistic theories of biological and cosmological evolution. "ID," continue

Jones and Tyler, “is a deliberately minimalist position. It unites people with diverse agendas and theologies around just two basic assertions: 'Naturalism is false' and 'Design is empirically detectable'” (223). They further argue that “ID is a broad church that is compatible with a range of positions from agnosticism, through theistic evolutionism to young earth creationism,” although most other ID supporters, including leading proponent William Dembski, would exclude theistic evolution from consideration (223). Michigan State University philosopher of science Robert Pennock, an ID opponent, similarly defines the movement in his *Kitzmiller v. Dover Area School District* testimony: “Intelligent design creationism is a movement that attempts to unite these various factions. I think it's best described as a strategy to take disparate views [...] that I have mentioned and to unite them against a common enemy” (Transcript, 12). Finally, the ID biology textbook *Of Pandas and People* contends that “Design theories suggest that various forms of life began with their distinctive features already intact: fish with fins and scales, birds with feathers and wings, mammals with fur and mammary glands” (Davis and Kenyon 25). As Jones mentioned prominently in his *Kitzmiller* decision, the latter definition was identical to the one used for creation science in previous editions of the same book (“Memorandum,” 43).

Redefining an Intelligent Design Advocate

In the face of these skeptical law courts and what education scholar Amy Binder calls the “soft repression” of dismissive and often derisive scientists, perturbed liberal theologians, and a divided public, various forms of previously open biblical creationism have found renewed vigor in the guise of ID, which now purports itself to be a “new, competing” scientific theory (553; O’Leary xi). The movement’s chief advocates are teleological theorists who assiduously seek to

“prove” design in nature by disproving both the philosophical validity and empirical findings issued by the natural science community. The fundamental assertions made by ID are that certain biological entities, be they individual cells or complex, multicellular organisms, come into being fully formed, something that is termed the “whole package phenomenon” or “irreducible complexity” by ID creationist authors (Kenyon and Davis 12; Behe, *Darwin’s* 39). Traditionally these views derive from specific narrative accounts from the Judeo-Christian creation myths, as well as 19th century clergyman William Paley’s ideas regarding natural theology, as will be explored in the second chapter.

A loose collection of beliefs, though perhaps the best we often have, is not an especially good definition of a movement. Perhaps it is better to think of the ID community as studied here as analogous to the Elizabethan playwrights: they are a deceptively small, closely-knit group of writers and scholars whose prodigious authorial output belies their numbers. In a sense, it is easier to name them: biochemist Michael Behe, mathematician William Dembski, law professor Phillip Johnson, journalist Denyse O’Leary, and physician Geoffrey Simmons are a few names that will appear here, and also are figures (especially the former three) whose combined authorship makes for the larger part of the circulating ID literature. ID membership might also be affirmed by the mutual support group they constitute for each other’s writing enterprises: At the beginning of a Simmons book, there is a fawning foreword from Dembski; Behe likewise glowingly introduces Dembski’s *Intelligent Design*; Dembski and O’Leary write a blog, *Uncommon Descent*, together; and virtually all of them can be found on the back jackets of each other’s latest works, granting whatever accolades the mainstream press may have forgotten to bestow. ID advocates can additionally be identified, to varying degree by their association with the Discovery Institute’s Center for Science and Culture, the arm of the Wedge strategy the DI

employs in the hopes of bringing about a Christian cultural renewal¹. (Behe, Dembski, and Simmons, and most other prominent ID rhetors, hold lucrative annual research fellowships from the Center for Science and Culture).

Part of this problem of definition is a combination of deliberate obfuscation on behalf of ID proponents and lax journalism, a problem which will be examined in the first chapter. Unlike neo-Darwinian evolutionary theory, which can be conveniently be defined as belief in: 1) the common descent of all organisms from one or a few forms; and 2) species variation through natural selection acting upon genetic mutations, ID advocates fail to argue consistently for what is an ID position and what isn't, or worse, imply that their individual beliefs are representative of ID as a whole. For instance Behe, as a way of distancing himself from "espousing creationism" confesses, "I have no reason to doubt that the universe is the billions of years old that physicists say it is. Further, I find the idea of common descent (that all organisms share a common ancestor) fairly convincing, and have no particular reason to doubt it"(*Darwin's 5*). The *New York Times* follows this lead in declaring that "[p]roponents of [ID], led by a group of academics and intellectuals and including some biblical creationists, accept that the earth is billions of years old, not the thousands of years suggested by a literal reading of the Bible," directly contradicting the account offered by Jones and Tyler above (qtd. in Luskin 591-92). Yet *Of Pandas and People*, the textbook at the center of the Dover trial, asserts that "some [design proponents] take the view that the earth's history can be compressed into a framework of thousands of years, while others adhere to the standard old earth chronology" (Davis and Kenyon 92). We shall also see in the first chapter how this ambiguity is manipulated to the advantage of ID advocacy.

¹ For a meticulous documentation of the Discovery Institute's financial backing from the openly theocratic Christian Reconstructionist movement, see Forrest and Gross' *Creationism's Trojan Horse: The Wedge of Intelligent Design*.

ID Versus Science and the Constitution

Doctrines of instantaneous biological creation have consistently been deemed unscientific or (often) antiscientific by the modern mainstream of science, defined here as all of the following: 1) the community of university science scholars; 2) the peer reviewed publication system within which these scholars operate; 3) the leading secular scientific organizations such as the National Academy of the Sciences (NAS) and National Center for Science Education (NCSE) who suggest and police guidelines for science pedagogy. Various creationist ideas have also generally been ascribed unconstitutional religious, rather than scientific, orientation by both the greater whole of the mainstream scientific community as well as the United States judiciary, as we have already seen.²

Yet given the totalistic motivation of many proponents of creationism (an absolute claim on complete truth necessitated by their theological views), the fervor of creationist assertions has understandably not receded in the face of repeated setbacks in law courts or rejection by the scientific publication community (Forrest and Gross 73). For all of the many declarations of the imminent death of creationism/creation science/ID, the movement carries a sustained and possibly growing popular appeal and political vigor. Assertions by secularists, academics, and clinicians that the idea—that of a miraculous deity mucking about in the mechanics of the

² Although both of these statements can be seen as arguments from authority designed to preemptively and definitionally dismiss debate about what creationism is, it is certainly worth noting the definitions of science and non-science as employed by: a) professional organizations comprised of the very people who perform the field work in the scientific disciplines; b) law courts whose specific task in the face of mutually contradictory arguments and a plethora of data is to address this very question. While I believe it is critical to establish that ID is not science in any useful understanding of the word, such a task is both beyond the scope of this work and, in essence, reinventing the wheel. As Kelly Smith notes in an essay on this very controversy, “[W]e must be able to take some things for granted in order to discuss anything at all without resorting to a Ph.D. dissertation” (721).

cosmos—is going away any time soon appear on closer inspection to be the purest wishful thinking (Wilson 63).

To examine the ideological divide between religious creationists representing ID and secular scientists arguing on behalf of evolutionary biology, it is helpful (with a nod to Foucault) to think of them not simply as presenting contrasting versions of the truth, but as discrete discourses vying for societal influence and political power. This lens suggests that the oft-commented upon “debate” between science and creationism is not, in fact, a debate at all—at least not in any meaningful sense. In order for a debate to proceed fruitfully, both or several sides must agree upon fundamental rules of order (or at least the desire for common rules) before any stage for realistic negotiation or compromise can be hoped for. This has not happened and probably cannot happen in this debate because compromise is not what either side seeks, but rather a political victory for their respective means of deciding truth—and in the process resolving what philosopher David Hildebrand calls the “deeper epistemological and ethical crises in American life” (217).

What are the assumptions that define truth for each side? On the creationist/ID side, they are many: divine revelation (be it from scriptural record or natural theology) is a legitimate way of knowing about the physical world; specifically, that the biological theory of evolution by any fully naturalistic means is incorrect, because it denies either kind of divine revelation; that both (or either) philosophical or empirical naturalism not only are not correct but cannot be correct; that either flavor (or both flavors) of naturalism are merely secular religions in (ostensibly equal) competition with traditional theistic understandings of the material world; that because of the two prior assumptions, materialist methodology, which excludes supernatural explanations for

material events, artificially constrains science rather than providing it with a plausible framework of limitations.

Methodological naturalism has its own assumptions, of course, which, contrary to the conciliatory public relations strategy of the NAS and NCSE, do directly contradict many (and perhaps most) religious ideas about cosmological and biological origins. These are: 1) immaterial supernatural actors are reflexively disqualified from scientific consideration as such actors are not subject to any standards, extant or theoretical, of empirical verification or disproof³; 2) (taking a cue from both David Hume's skepticism regarding miracles and the principle of parsimony) that we need not and should not infer causes which are disproportionate to their effects, or infer miraculous causes when natural causes with which we are familiar are significantly possible (Hume 112-136). As long as naturalistic explanations for natural events are plausible or even available, there is no need to invoke miraculous causes which defy known natural law; 3) (essentially restating the second) since natural causes are far from exhaustively analyzed, there is, *ergo*, no need at all to consider non-natural, extra-natural, or supernatural actors in our causal investigations at present, nor anything much to be gained by science should we do so.

A few, if not most, of the reasons that these views are genuinely incompatible should be fairly obvious on the surface: they admit neither the same standards of evidence, nor the same standards of disproof. Hence, scientists from Darwin to Dawkins piling up centuries of papers criticizing, debating the mechanism of, painfully scrutinizing and ultimately affirming evolution

³ It is necessary to distinguish between testable hypotheses, theoretically testable hypotheses, and hypotheses that avail themselves neither to actual nor theoretical testing. Astrophysicists, for instance, often speak of the multiverse hypothesis, the idea of many or infinite universes occurring successively or simultaneously. The idea is, in a material context, no more testable than ID, and so, in a certain sense, equally unscientific. The principal difference is a matter of academic integrity: physicists very much *would* like to test their hypothesis, and can at least imagine the necessary procedures. For instance, Martin Rees contends, "we can envisage some developments that might rule out the [multiverse] concept" (150). ID advocates consistently decline to offer any means by which their hypotheses might be modified or falsified in the face of sufficiently opposed evidence.

is finally of benefit (so far as the debate goes) only to themselves; for creationists, scientific research (of the wholly naturalistic variety) is definitionally invalid so long as they perceive to it undermine a supernatural authority which is definitionally infallible, versus the fallible investigations of man—it is merely a manifestation of the conflict thesis between science and religion that fuels creationist fervor, and as such, evolutionary research is to be ignored or selectively interpreted as creationists see fit. And yet the accumulation of physical evidence, and the subsequent presentation of findings before the community of scientific peers, is the only suasive tactic which scientists feel to be reasonably objective or valid—and as importantly, the only one many of them can employ with any facility. (Exceptions abound, of course: Richard Dawkins, Stephen Hawking, Stephen Jay Gould, Carl Sagan, Kenneth Miller, and many others are elegant rhetors as well as highly respected researchers.) Creationists, conversely, cannot accept any system of inquiry that excludes from its parameters any sort of miraculous intervention, as the ability of the creator or designer to work in any fashion which it chooses (what Bible scholar and Discovery Institute fellow Jack Collins refers to as ordinary and/or extraordinary providence) is an indispensable aspect of their worldview (23). A supernatural entity that only does work or can work within the laws of nature is, for the ID advocate, conspicuously approximate to no supernatural entity at all. As O’Leary would have it, “The problem for theistic evolution (Darwinism with a slight glow of faith) is to explain how it differs from atheistic evolution, except in the hopes of its adherents” (240). This, apparently, is why the idea of a god working within the parameters of natural law is ultimately almost as threatening to creationists as forthright atheism: millions of Catholics and liberal Protestants are, without knowing it, it seems, closet nonbelievers.

Before proceeding further, though, it is important to clarify what is *not* being critiqued here: intelligent design (note the lowercase letters, here indicating a notion and not a movement) can mean many things to many people. To many nonscientists and scientists alike, design is a suggestively deistic notion, which implies that the properties of the universe in which we live are improbably hospitable to our kind of life. Even among many physicists, the notion that the constants of the universe are felicitously aligned to allow the formation of physical structure and ultimately organic matter seems a plausible one, suggesting to some a mind-power which has pre-arranged the matter to allow certain teleological ends to come forth—analogue to the prime mover or root cause idea of divinity. This idea of intelligent design is a separate philosophical argument from the one entertained here. The reason that the “anthropic principle,” as it is frequently called, falls largely outside the debate is as follows: this kind of intelligent design fully accommodates evolution by natural selection specifically, and the evolution of the universe through stochastic processes more generally. It requires no miraculous intervention at any point post-Big Bang, and hence can be seen as a philosophical companion to, rather than opponent of, the scientific naturalism which encompasses the research programs of all the physical sciences.⁴

Demonstrating the Debate: Gods, Gaps, Dichotomies and Democracy

A social, political, and religious movement spearheaded by Phillip Johnson, a lawyer who is opposed to secular science, is bound to cross a few disciplinary boundaries, so any record of it

⁴ Additionally, although some ID advocates (like O’Leary), conflating cosmological and biological evolution under the heading of “Darwinism,” co-opt the anthropic principle as a point of argument, it is stunningly inconsistent with their ideas of interventionism: the anthropic cosmological principle argues that the universe is, based upon certain quantifiable constants of physics, uncannily equipped for and hospitable to the emergence of complex life, hence proving the existence of supernatural design; for ID advocates, however, the universe (and more specifically, the earth) is simultaneously so *unfit* for the emergence of life that miraculous intervention is required to bring it about. It is one of the more egregious examples of eating one’s cake and having it, too, that one might imagine.

necessarily will as well. Nevertheless, a number of ideas and texts seminal to the controversy help to clarify and validate the assertions made thus far: Chapter One establishes and examines, across a sampling of the literature, the very nomenclature by which each side identifies itself and its opponent: Intelligent Design, for the anti-evolution movement, and Darwinism, the name which evolution critics have historically granted the theory of evolution by natural selection. What's in a name? Plenty. By casting the debate in terms of an "ism" versus a process, traditional creationists of the past and modern ID advocates aspire to invert the traditional perception of the controversy by claiming the mantle of empiricism while depicting mainstream science as dogmatic and religious (in the worst sense of the word). An object here is to demonstrate, through an examination of the naming problem, that each movement, by nature of its very inability to agree upon the philosophical aims of the opposition, is talking at cross-purposes with the other. More importantly, however, we shall see that that ID creationists attempt to frame the dichotomous interplay between creationism and contemporary evolutionary theory as representative of the entire range of positions and possibilities—something patently untrue. Moreover, the attempt to reduce the number of available positions to "Darwinist" or "ID advocate" is itself a rhetorical act aimed at creating the perception of an amoral versus a moral position.

Chapter Two deals with the influence of nineteenth century natural theology on the present arguments of the ID movement. Here we will demonstrate that the principles on which the entire enterprise of ID, heavily invested in the God-of-the-Gaps fallacy, rests are both not scientific, as we understand the term in a modern sense, but also appealing to a false dichotomy in which scientific ignorance affirms religious teleology. The two primary texts explored will be the Rev. William Paley's 1802 *Natural Theology* (which was heavily influential upon Charles Darwin and

the structure of *Origin*) and Michael Behe's 1996 *Darwin's Black Box: The Biochemical Challenge to Evolution*, in which he restates and defends Paley's arguments as relevant to modern biology, coining the ID buzzword "irreducible complexity" in the process. This chapter continues demonstrating the importance of the false dichotomy to ID's larger rhetorical strategy of promoting science as a two-party democracy.

As previously mentioned, compromise is highly improbable because of both the distance between and mutual exclusivity of the positions—in this instance, I believe, a genuine dichotomy. A friend of mine once wrote that if I say the moon is made out of rock, and you contend that it is made out of green cheese, in order to find middle ground, I must concede that it might be *half* made out of cheese. Likewise, if mainstream scientists contend that life on earth begins through abiogenesis and subsequently evolves from other life, and ID advocates feel that it comes into being in a cloud of fairy dust (or whatever non-natural mechanism, as to a one, they do not propose one), scientists would need to admit into research and pedagogy the likelihood that *sometimes* life forms might come into being in a cloud of fairy dust—in short, that miracles are legitimate scientific explanations, rather than quintessential non-explanations.

Proselytization for either side is unlikely as well, because, again, for to admit ID arguments into science is, to the mainstream scientist, to surrender the entire utility of empiricism by admitting causes outside of any empirical method. And as David Hildebrand argues, to exclude ID from science for the ID advocate is to surrender a personal position that is utterly self-defining, even if logically inconsistent (225).

But ultimately, compromise is not the goal of ID advocates: while science and religion do not form an actual dichotomy of mutual exclusion, fully naturalistic evolution and creationism, in fact, do. This is not to say that the kind of dichotomy that ID supporters argue (in which

evidence against evolution is evidence for ID) is correct, but rather that both of these ideas cannot, in any likelihood, simultaneously be valid. The ID advocate is playing to an audience, and it is not comprised of paleontologists. Their audience is comprised of the Christians whom they feel are their reflexive targets (“our natural constituency,” as Phillip Johnson puts it) as well as those undecided on the issue. The rhetoric of duality that pervades ID is particularly aimed at the latter: by framing this debate as a matter of one choice that is simultaneously epistemic, ethical, and of practical importance to the future, ID rhetoric creates a coercive environment in which people are bullied into choosing between, in their view, a discredited and atheistic Darwinism and a morally sound and scientifically promising ID. Never mind that these options are bogus. So ultimately, the two chapters presented here are presenting multiple ways to examine the same kind of dualistic logic as it represents itself throughout the history of fundamentalist Christian discourse—the design of Paley’s natural theology versus the atheism he claims is endorsed by disbelief in it; the affirmation of God that is fueled by the failure of science; the idea of democratic debate in which points against one position necessarily favor the other. None of these ideas, of course, are the way that anything in science is decided, and that is why Intelligent Design is in no danger of breaking into the mainstream of scientific discourse. But if ID advocates can succeed in manipulating the terms of the debate to create the idea that science is, in fact, a two-party democracy—if they can even convince anyone that ID is one of the parties to it—then much of their argument is already won.

Why ID and Rhetoric?

As a final note, I suppose it appropriate to offer a rationale for this project. After all, what could possibly be left unsaid about a topic covered in such voluminous content and meticulous detail from so many disciplinary perspectives over the course of several decades? There are a few answers that I will put forth as a defense of this inquiry. The first, and more general, justification I offer is that since ID itself is a movement with a long history under different names, as well as an active entity that is marked by a constantly changing rhetorical strategy, there can be no final word on the idea, certainly as long as it remains in popular currency. The second and more specific justification is that the substantial majority of this debate has taken place in the arena of the sciences themselves, and analogously in the philosophy of science. Scientific stalwarts such as Sagan, Eldridge, Dawkins, Gould, and Miller have raised their formidable pens to oppose ID from a scientific evidentiary perspective. In the philosophy of science, Robert Pennock, Barbara Forrest, and (for the ID position) Stephen Meyer and Alvin Plantinga have contributed examinations of the epistemological warrants for each position. Since this movement has broad implications for the practice and theory of science, this is certainly appropriate. But historians such as Ronald Numbers, Michael Shermer and George Webb have not shied from the topic either, proving that the debate has long since fled the geology building and become not only of note to the general public, but scholars feeling it a piece of the culture worthy of retrospective analysis.

But what of the language disciplines? For a movement that is so based in public polemic, there is a great deal left to address from the standpoint of argumentation. Particularly, those opposing ID from the aforementioned disciplinary perspectives tend to make lengthy arguments

about why ID arguments should not work, either because they are philosophically errant or scientifically vacuous. Aside from thoughtful examinations by a few communications scholars such as the (pro-ID) University of Memphis professor John Angus Campbell and the University of Pittsburgh's (less sympathetic) John Lyne, most treatments of ID using the term "rhetoric" have, in fact, proceeded in a similar polemical vein. They are typically more interested in telling us why ID is correct or incorrect than in explaining its argumentative appeal—a distressing oversight for the study of a movement with broad and deep popular adherence. What I will do then, with this thesis, is examine the function of some of the argument for ID—how it works as language, first and foremost—while generally leaving the continuing evaluation of its scientific, philosophical and religious merit to those better qualified.

A TALE OF TWO TITLES: DARWINISM VERUS INTELLIGENT DESIGN AND THE RHETORIC OF RENAMING

ID's Latest Legal Troubles

On Dec. 20, 2005, U.S. District Court Judge John Jones III (Middle Pennsylvania) maintained that the neo-creationist Intelligent Design (ID) theory, which holds the idea that biological life is, in the words of lead defense expert and prominent ID supporter Dr. Michael Behe, “irreducibly complex,” and must by inference be attributed to a divine creator, is “a religious view, a mere re-labeling of creationism, and not a scientific theory” (*Kitzmiller*, “Memorandum” 43). He went on to describe a very specific instance of this language substitution in the Intelligent Design biology textbook, *Of Pandas and People*:

As Plaintiffs meticulously and effectively presented to the Court, *Pandas* went through many drafts, several of which were completed prior to and some after the Supreme Court's decision in *Edwards*, which held that the Constitution forbids teaching creationism as science. By comparing the pre and post *Edwards* drafts of *Pandas*, three astonishing points emerge: (1) the definition for creation science in early drafts is identical to the definition of ID; (2) cognates of the word creation (creationism and creationist), which appeared approximately 150 times were deliberately and systematically replaced with the phrase ID; and (3) the changes occurred shortly after the Supreme Court held that creation science is religious and cannot be taught in public school science classes in *Edwards*.

Jones fails to mention, unlike many subsequent critics, the specific account of the word substitution. In an event that has given rise to a popular scientists' in-joke, particularly in their internet forums, testimony by philosopher Barbara Forrest at the trial revealed a search-and-

replace function in the word processing program in which “creationists believe” was replaced by “design proponents believe,” except in one unfortunate and telling error in which “cdesign proponentsists believe,” a delightful hybrid of the two terms, was printed on the page (Matzke).

Having traced the events, Jones then proceeds to argue as to the novelty of ID theory:

This word substitution is telling, significant, and reveals that a purposeful change of *words* was effected without any corresponding change in *content*, which directly refutes [the Foundation for Thought and Ethics, the textbook publisher’s] argument that by merely disregarding the words “creation” and “creationism,” FTE expressly rejected creationism in *Pandas*.

He thus ruled against the defendants in the Dover school board, determining that teaching ID in public schools amounts to state-endorsed religion and therefore violates the Establishment Clause of the First Amendment. While the ruling does not explicitly state as much, it also suggests that ID is, in fact, a form of creationism: “We have concluded that [...] ID cannot uncouple itself from its creationist, and thus religious, antecedents” (*Kitzmiller*, “Memorandum” 136).

Jones’ judgment is in accordance, as we shall see, with that held by the overwhelming majority of laboratory biologists and most educators that this new name does not itself denote a new intellectual or scientific entity (*Science* 25). As a result, ID was dealt the same dispiriting legal setback as anti-evolution statutes and “balanced treatment” between evolution and creationism statutes that have previously foundered before the U.S. Supreme Court (Forrest 6-7).

Likewise, Calvin College astrophysicist and (it merits note) Evangelical Christian Howard J. Van Till has commented that:

Religiously motivated opposition to scientific theories, especially theories concerning biotic evolution, is not a new phenomenon. Nonetheless, both the *forms* of opposition and the *labels* devised to name the opposing viewpoints do change over time (117).

Barbara Forrest and Paul R. Gross, authors of the aptly titled *Creationism's Trojan Horse* (paraphrasing evolutionary psychologist Robert Wright), referring to ID's ability to stay in the public eye and on the political map despite its misfortunes, add that "although ID is just a new label, a marketing device for an old product, it is also an effective one" (11).

Yet, even if the assertion is granted that this nominal new moniker is but an old idea repackaged, the effects of this renaming, particularly in comparison with other logical aspects of the controversy (for instance, the scientific evidence for ID), remain uncertain and largely unexplored from a rhetorical perspective. This chapter argues that the suasive implications of retitling the terms "creationism" and "scientific creationism/creation science" as "Intelligent Design" are not only more significant than is popularly assumed, but genuinely illustrative of the manner in which ID advocates frame the debate to advocate a pedagogical approach in which ID and evolution are seen not only as equal and competing, but as the only two options available.

In order to begin an analysis of the movement (setting aside, for the moment, the question of whether and to what extent it is a political, scientific, or religious enterprise) calling itself "Intelligent Design" we shall start with its own introduction to itself: its title; and its corollary, the pejorative moniker "Darwinism" which traditional creationists and modern ID advocates use to identify (and denigrate) evolutionary biology. What I will present here is a brief description of the naming controversy. I shall then briefly list the uses of "Darwinism" across the recent literature of the ID movement before continuing to an enumeration of the rhetorical implications

of the titling controversy. In doing so, I suggest that the naming dispute between the discourses of science and creationism (and by extension, in any debate) reveal how a language act such as titling can predispose argument extraneous to the larger content of the argumentative issues themselves. In other words, I argue that labeling, both of the ad-hominem attack (in the instance of “Darwinism”) as well as a self-aggrandizing nominal reinvention such as “Intelligent Design” is not an avoidance or preemption of argument, as such is often circumscribed, but rather a form of argumentative premise that can largely be analyzed apart from the additional development of the suasive strategy.

What’s In a Name?: The Intentions of Renaming Special Creation

R. Allen Harris’ 1991 think piece in *College English* simply titled “Rhetoric of Science” is interesting for two purposes related to this discussion: It offers the difficult and speculative work of offering a taxonomy for the emerging field named in his its title, and it stands at a chronological precipice before Phillip Johnson’s *Darwin on Trial* would popularize ID for a new generation of creationists. Since a large part of Harris’ argument is devoted to the difficulty and unavoidable arbitrariness of taxonomy, it is appropriate that ID would fit into more than one of his categories (if with varying degrees of comfort). He would certainly recognize ID as belonging to what he calls “the rhetoric of religion in science” but might not shy away from its inclusion in another sub-category he dubs “the rhetoric of scientific language” (292,296). He is certainly (and perhaps presciently) onto something here with the idea of scientific language itself, rather than simply the *arrangement* of scientific language (scientific grammar, perhaps?), being rhetorical.

The title of concern for us here, “Intelligent Design” in reference to a school of anti-evolutionary thought might be precisely the kind of thing Harris is on about (although it is unlikely that he would have found ID to be scientific). The name seems to first be recorded in the 1989 supplementary high school biology textbook *Of Pandas and People*, recommended to Dover biology students in a 100-word disclaimer at the beginning of the ninth grade biology course. The authors assert in their introduction that “proponents of intelligent design throughout history have shared the concept that life, like a manufactured object, is the result of intelligent shaping of matter” (Davis and Kenyon vii). The first aspect of this title that will be explored is its intended and actual improvement upon “creationism” and “creation science,” the previous titles given to conservative Christian theological cosmology as ostensible physical science. Intelligent Design as a moniker has salient rhetorical advantages over creationism: ID refers to a process as well as a theory, while creationism refers to a theory alone—just as evolution refers to both a theory and a process. Creation, conversely, refers to a singular act, and does not readily admit the pattern-searching that marks investigation of an ongoing process. Design and evolution are such observable, material processes, the kind which scientific nomenclature prefers to bestow upon its operative paradigms: general and special relativity theory is not referred to as Einsteinism, nor is physics pre-Einstein referred to by anyone as Newtonism,¹ or, still worse, gravitationism. Science’s ruling geological paradigm is named for a process—plate tectonics—and hence is not tied to the beliefs of one man and hence named individually: continental drift is not referred to as Wegenerism, nor punctuated equilibrium in paleontology as Gouldism/Eldridgism. Hence, Intelligent Design appropriates scientific-sounding terminology in

¹ Even should we grant that Newtonian physics carries his name, the idea popularly remains that physics exists apart from Sir Newton; not so with Darwin and evolution.

a successful manner which neither creationism nor the overtly contrived-sounding creation science do.

However, the rhetorical intent of the term “intelligent design” seems not merely to ape the idea of material function behind scientific theory, but a particular kind of theory—one invented and perpetuated by observable, actual agents. Design is not, as is scientifically understood, a process that predates humanity: the fields which we refer to as having design (architecture, engineering, etc) all feature human design, the kind of activity unavailable to less intelligent or unintelligent actors. Hence, intelligent design features not just process but actor (a designer or Designer), just as mechanical engineering features a mechanical engineer. In this regard, the title differentiates itself from a field such as astrophysics: *we know of* astrophysics due to human observation and documentation, but any sensible person would concede that the forces of astrophysics predate humanity’s name for the field, and would happily continue to operate should we cease to observe them or even cease to exist. By semantically associating biological design with the kind of design performed by humans, the Designer operates within human design parameters, i.e. different objects—in this case individual biological species—must be crafted individually and differently to suit the individual telos of each. This assumption is rhetorically fundamental to the ID movement’s definition of intelligence: God (or at least some quasi-omnipotent being who curiously resembles God) works within the mechanisms of human option, and human intellect, and is differentiated only by greater might.

These last assertions warrant further exploration, because they engage us in semantically precarious territory: for the ID advocate, “design” and “intelligent design” are interchangeable. Yet in the ordinary use of language, and, more importantly, in the language scientists and non-scientists alike use to describe nature, “design” is frequently employed with no such intent. By

conflating design and intelligence, the ID advocate can impute her position to those who by no means necessarily hold such views.

Philosopher Patrick Byrne, in a rebuttal to the ID endorsement of Catholic Cardinal Christoph Schönborn, addresses this semantic dilemma by discussing the conflation of the multiple meanings of “design” into the one favored by ID advocates:

[C]ommon use of the word “design” almost always implies the necessary existence and agency of a designer. In other words, the connection between design and designer is assumed to be analytic: “There cannot be design without a designer.” “Designer” in this sense means a being with the intelligence [. . .] and the deliberate intention to accomplish some purpose. (655)

But Byrne argues that this is precisely not the case: Nature, he contends, is full of patterns, and discovering these “designs” is the better part of what scientists do. Both scientists and historians refer to this second sense of design without thinking for a moment that it departs from fully contingent events. As Byrne asserts, “[T]he existence of intelligible patterns does not necessarily indicate deliberate design” (655).

This deliberate design is revealed through each and every analogy used in the long intellectual and literary history of ID: from William Paley’s pocket watch in 1802 (more on that in the next chapter) to William Dembski’s assertion in 1999’s *Intelligent Design: The Bridge Between Science and Theology* that “the universe is a canvas on which is depicted natural history,” to Michael Behe’s 1996 mousetrap analogy, divine intelligence is not a mysterious thing but rather one plainly akin to human intelligence; it is a documented and identified intelligence that has practiced design in something relatable to a human workshop or laboratory. This concept anthropomorphizes divine intelligence and divine design by rendering them remarkably similar

to human intelligence and design: God must be for we are, and we are made like God—the “image and likeness” argument in reverse². This concept of intelligence differs markedly from many Christian (such as Roman Catholic and most mainline Protestant) conceptions of divine intelligence, which operate outside biblical literalism or miraculous interventionism to explain nature, and hence believe evolution to be well within the range of options for a truly infinite intelligence. ID’s brand of intelligence, though, is flattering to its advocates in that it partly deifies humanity and humanizes God.

Intelligent Design maintains, as mentioned briefly, another nominal advantage over creationism, and that is quite simply the absence of an “ism.” Lest the point seem peripheral or trivial, let us examine the implications of the ism itself. Personified isms have not fared well in the American public consciousness of the previous century: the terms Marxism, Leninism, Stalinism, Maoism, and McCarthyism have all met (and continue to meet) a palpable measure of antipathy from the American public. (And it is worthy to note that there is no widely known political school of Rooseveltism, Eisenhowerism, or Kennedyism, suggesting that the ism is consciously derogatory as a personified political label.) In American social policy rhetoric, the ism is frequently a pejorative aimed at undermining the perceived cult of a subversive individual. While creation is a thing and not a individual, even movements with ism titles tend to be perceived as having menacing splinter agendas (communism, capitalism, socialism, fascism, nazism), while larger institutions (government, religion, democracy) that lack them strike one as more ethically neutral, permanent, and generally respectable. The ism constitutes a thing in flux, a (usually new) movement with an agenda, and hence ism is equated with the adventurousness of

² In one of many unnoticed ironies, the ID movement apparently is unaware or unconcerned with how robustly this modern reverse-engineering of the Almighty as biochemist fuels very Freudian ideas about man creating his gods, a concept with which ID opponents would certainly tend not to agree.

revolt and agitation, and not the bland neutrality of accepted fact: no one has a problem with gravity, but it's easy to look askance at a term as loaded as "Darwinism."

By Any Other Name: Darwin as the Cult of Naturalism

Unlike "Intelligent Design," the term "Darwinism" (it is important to clarify) is not even a relatively new one. According to historian Ronald Numbers, the moniker was used in the United States shortly after the publication of *On the Origin of Species* in 1859 (1). Because names loom large in an infant science, "descent with modification" as Darwin termed it, was synonymous with his name to separate it from earlier and concurrent theories of evolution (such as Lamarckism, by which characteristics acquired during an organism's life were assumed to be heritable). Creationism, incidentally, had a specific theological connotation as one who believed in the sudden creation of the fetal soul, rather than one who denied evolution (Numbers 50). Darwin himself used the term in its latter sense as early as the 1840s, but it seems to have gained little public circulation until as late as the 1930s (Numbers 50). "Darwinism" does not seem to have immediately acquired derogatory connotations.

From the above innocuous beginnings, though, derive the ID movement's ubiquitous assaults on "Darwinism" today. The term carries special pejorative weight throughout the ID literature: Phillip E. Johnson, retired Berkeley law professor and the intellectual father of the ID movement, employs the term early and often in *Darwin on Trial*, his 1991 work generally credited with popularizing "intelligent design" as the movement's title. In a footnote to his first chapter, he defines "Darwinism" by the seemingly innocuous "fully naturalistic evolution, involving chance mechanisms guided by natural selection" before moving later to a damning indictment of

“Darwinist religion” in a later chapter (4, 123). For O’Leary, “Darwinism is a theory of evolution that explicitly denies design in biology to leave God out of the picture” (xi). Dembski complains that “Darwinism is much more than [the mutation and selection] mechanism. Darwinism is the totalizing claim that this mechanism accounts for all the diversity of life” (113). In a similar vein, Denis Lamoureux provocatively asks, “Was Charles Darwin a Darwinist?” (23). The examples are countless: every major work by or in support of major ID writers uses “Darwinist” or some variant (“Darwinian theories” or, more simply “Darwin’s ideas”), instead of “evolutionary biology,” the term used by actual practitioners, the former writing as the life sciences have stood oddly idle since 1859, and all evolutionary thought begins and ends with Darwin. (It doesn’t, of course, nor did it during Darwin’s lifetime. As is well known, Darwin rushed *Origin* into print as his compatriot Alfred Russel Wallace was developing his own theory of evolution by natural selection. Darwinism, if there is such a thing, didn’t even stand still for Darwin.)

We can, however, easily surmise that the continued popular circulation of the term “Darwinism” indicates that the scientific community has a tenuous grip this aspect of the rhetorical game, much in the sense that the Mensheviks (“minority party” in Russian) did in allowing themselves to be thus labeled (a gesture of “awesome stupidity,” notes evolution scholar and paleontologist Stephen Jay Gould) (*Rocks* 28). While “Darwinism,” as mentioned, is not used in clinical discourse by practicing biologists, it makes for a far better attack point than does the term “evolution.” By personifying a theory, no matter how broadly accepted, the theory can be rhetorically assailed at the root rather than at the branch. Logically, if evolutionary biologists are all Darwinists, and Darwin is wholly or largely incorrect—for that matter, even somewhat incorrect—Darwinism is discredited along with its progenitor. If Darwinists are

merely Darwin's disciples, as the attack implies, then they have nothing fundamentally original to offer to science, but only incremental adaptations of a purportedly defective hypothesis³. As a strategy, it has a certain communicative efficiency: given modern scientific means of inquiry and perception, debunking many of the observations of a lone 19th century naturalist—attacking evolution at the root—is not particularly difficult; debunking the vast body of work supporting his central claim of common descent—attacking his theory at the branch—is the more problematic task. In fact, to demonstrate the idea that evolution by natural selection not only exists without Darwin, but would likely share much the same disciplinary discourse which it does today, we again need only note that Alfred Russell Wallace prompted Darwin's publication of *Origin* by revealing his nearly identical theory. Or we could note that, as Darwin's own granddaughter, Nora Barlow, writes, "It is true that the coming of evolution had a long history behind it; and there are some who would place Charles Darwin as a kind of lucky number in this lineage of over two thousand years" (13). So to equate scientific ideas of evolution solely with Darwin is a neat rhetorical invention indeed.

One of the more significant ironies of this Darwin as demonized straw man is that what the ID advocates are attacking is a kind of naturalism that Darwin himself never espoused. University of Iowa rhetoric and communications scholar David Depew demonstrates clearly (and succinctly) that "in equating Darwinism, especially the original Darwinism, with naturalism, you would be making a mistake" (375). Lamoureaux provides ample evidence of Darwin's continued considerations of a deistic notion of design, up until his death (39). The Darwin that the ID movement has constructed is a political entity curiously dissimilar to the English naturalist so often reviled.

³ See Geoffrey Simmons' 2003 *What Darwin Didn't Know* for an extended example of the tactic of conducting a debate with a man 120 years dead as if he spoke for current lab science.

ID and the Media

The objective of an improved title is but one rhetorical aim of the ID movement's strategy: renaming, both generally and in this instance, seeks to reinvent perceptions of the thing renamed. This is different from the idea articulated above, in that the intention of renaming creationism as intelligent design is also to create the public perception that it is a new entity, and not merely a new name. In this regard, the ID movement has been remarkably adept: one success of creationism's new moniker can be measured by ID's treatment in the print media. Major newspapers, among them the *New York Times* have commonly treated ID in the course of an ordinary article as "the theory that life is so complex that it must be the work of an intelligent agent⁴." There is often no mention of its relation to or equation with creationism, nor is there mention of the fundamentally religious nature of the doctrine. Far from being antithetical toward religion, as the mainstream press is so often accused, it in this particular instance actually soft-peddling the issue by accepting the ID movement's word that ID is a scientific theory. Rather than employing the aggressive secularism that religious people frequently accuse the print media of, the press is granting secular validity to a religious social agenda based on the ID movement's mere suggestion that it do so.

New York Times head science writer Cornelia Dean is acutely aware of the problem of reconciling the conventions of reporting what is, in reality, a popular and political controversy, but not a scientific one. She is, by her own admission, less aware of how a journalist is to rectify the discrepancy. The problem, briefly, is reconciling the traditional journalistic idea of objectivity, in which viewpoints are represented with some approximation of "equal time," with

⁴ It is worth note that the *Times*, in 2007, began adding that ID is "a creationist idea" in stories covering the topic (Dean).

the scientific idea of objectivity in which the weight of evidence corresponds strongly with the amount of exposure an idea is given. Dean is, as a journalist, understandably uncomfortable with the idea of personally deciding which views to censor as frivolous or nonsensical. And here we have the science journalist's dilemma: Is it the duty of the journalist to report the non-controversy over the validity of evolutionary theory in the sciences themselves, or is it the duty of the scientist to persuade the public directly that such is the case? She summarizes the problem thus: "[Journalists] have a reflexive desire to give both sides of the story even if there is only one side" ("God").

Hence, the ID movement, lacking the requisite foothold in the literature of science to empirically advance its claims, relies on semantic tactics to accomplish rhetorically what it cannot or will not, in present scientific debate, establish factually. This is not to say that the movement will not, or cannot, gain scientific validation (an unwarranted *a priori* exclusion that some scientists indulge in), but rather than in the absence of such that it proceeds as if it already has; its very name, "Intelligent Design" or more assertively "Intelligent Design theory," by the verbiage chosen, assumes that it is a scientific movement; a theory in science is a hypothesis with a body of research behind it.

Dualisms and the Role of the Rhetor

If the above is true, however, why has the print media not (or only recently, in the case of the *Times*) removed the kid gloves? Why is there no concerted offensive against what appears to be a theological argument parodying laboratory science? While no definitive answers can be provided here, one might speculate: 1) The acceptance of dualisms caters specifically to the print media's strengths: accepting the dichotomy between evolution and ID as competing scientific and pedagogical theories presents the kind of polarizing debate in which the media specializes. Arranging public opinion into pro and anti camps makes for good copy; therefore, allowing creationism to be renamed without challenge changes the terms of the debate from science versus religion (a tired angle) to a raging controversy within science (a fresh angle). Physicist Adrian Melott summarizes:

Unfortunately, journalists routinely present controversies where none exist, or they present political controversies as scientific controversies. Stories on conflicts gain readers, and advertising follows. This bias toward reporting conflicts, along with journalists' inability to evaluate scientific content and their unwillingness to do accuracy checks (with notable exceptions), are among the greatest challenges to the broad public understanding of science.

2) The print media generally offers more credibility to purportedly “new,” or paradigm-altering, findings than it does with incremental disputes within any particular discipline—hence little front-page attention is given to findings *within* evolution but plenty offered to things claiming to *supplant* evolution. Portraying ID as a “find” rather than simply a contrivance creates controversy, and controversy sells more than contrivance; 3) The print media is more concerned,

given its present maligned reputation, with the *appearance* of objectivity than with actual objectivity. Reporting ID as a legitimate alternative clinical theory, while disingenuous, perpetuates the illusion of an objective media; reporting it as a religious theory, while accurate, perpetuates the stereotype of a liberal, ideologically slanted media. 4) The presence of actual Ph.D. scholars such as William Dembski and Michael Behe supporting ID lends it the surface academic prerequisites necessary for media credibility. This latter idea is embodied in a passage from French philosopher Michel Foucault:

First question: who is speaking? Who, among the totality of speaking individuals, is accorded the right to use this sort of language? Who is qualified to do so? Who derives from it his own special quality, his prestige, and from whom, in return, does he receive if not the assurance, at least the presumption that what he says is true? What is the status of the individuals who—alone—have the right, sanctioned by law or tradition [...] to proffer such a discourse? (50)

In short, the academic rhetor is as much by rule as by accomplishment granted the role and privilege to question the established discourse of academia; and ID's recruitment of and propagation by credentialed academics claiming credibility on academic grounds grants them a *de facto* voice in the public debate, at least from the perspective of the media who have the power to grant that voice.

Conclusions

“Intelligent Design” as phraseology has a remarkable rhetorical savvy about it: in setting itself in semantic opposition to evolution, it creates a powerful if specious dichotomy between atheistic and personal forces of creation. This appeal strikes at the heart of the human egotistical desire to be seen as a planned (as opposed to incidental) chapter in the history of the material cosmos. The term purveys that preponderantly emotional yearning into an intellectual enterprise by usurping the surface rationale of material science. The moniker is then lent ethical credibility by degreed academics such as William Dembski and Michael Behe who espouse ID as an empirical rather than a purely teleological supposition.

ID as a name is effective rhetoric. It distinguishes itself (if duplicitously) from creationism; it sounds empirical and testable; it is flattering to the human concept of intelligence; it is a better name than evolution, in that it carries more listener significance and greater specificity. Use of “Darwinism” to describe evolution is also effective rhetoric, in that it takes a broadly accepted scientific theory and recasts it as an esoteric cult of an archaic and obsolete Victorian naturalist. In order for ID to be exposed as pseudoscience, the scientific community must disseminate better PR strategies to the print media and the general public—perhaps going so far as to take the “talking points” sloganeering of the ID movement and putting it to pedagogical service; it must make its findings generally accessible to the lay reader through more accessible and engaging education in the educational system. If material science is to combat the rhetorical inroads that ID has made into its purvey, it must make its means, methodology, and conclusions available in formats that suit the needs of the audience. Individual scientists must abandon the elitist ideal that science is only comprehensible to the trained, academic, “enlightened” empirical audience; it

must borrow from the humanities the idea of inclusivity. Should hard science wish to remain popularly relevant, (and as importantly, funded) it must assiduously work to remain popularly available. Despite the highly technical nature of the profession (which is the nature of any hard science), biology must learn to present its findings so as to transcend the dualism of “creation versus evolution.” The failure of biology to do this, its failure to rhetorically combat the language that impugns it, threatens not only its clinical validity, but its popular acceptance. Like any publicly funded and supported enterprise, it cannot thrive without the latter. The above suggestions are tall and (perhaps irritatingly) general, to be sure, but it seems obvious that public access to, comfort with, and understanding of scientific research are the best countermeasures to address the case made by ID advocates.

What the naming controversy tells us, then, is that while ID and evolution do not, at root, belong to the same discourse, the latter borrowing the terminology of the former has been worked to great effect. Without the palpable science envy (with another small nod to Freud) which leads religiously motivated discourse to mimic scientific discourse, the essentially political tactic of attempting to rename a discipline of science (evolutionary biology) to cast it in terms of traditional religion (or at least charismatic cult) while recasting a discipline of religion to reflect the discourse of science (in which processes rather than people or movements—at least ideally—stand trial) ultimately reflects to what extent adherents of religious teleologies are conflicted between their concomitant need to usurp and reject science. But even these two verbs oversimplify the issue, as the idea of mutual exclusion between the two, if valid in theory, is not reality in practice: ID advocates appear to like the respectability which the terminology of scientific discourse grants while eschewing the evidentiary commitments that come with the actual ideology of science.

IRREDUCIBLE COMPLEXITY: THE DEMOCRATIZATION OF TELEOLOGICAL MYTH

Gods and Gaps

Since, in highly condensed form, virtually everything of substance in this chapter is already asserted in the subtitle, “The Democratization of Teleological Myth,” it will be useful to define some terms before proceeding with my analysis. “Democratization” is intended to address rhetoric suggesting that scientific ideas are popularly elected. “Teleology” is, in its simplest sense and the one employed here, the belief in (as opposed to simply the study of) purpose or design in nature. Finally, by “myth,” I mean, following the *Oxford English Dictionary* “A traditional story, typically involving supernatural beings or forces, which embodies and provides an explanation, aetiology, or justification for something such as the early history of a society, a religious belief or ritual, or a natural phenomenon.” (“Myth”). By using the term “myth,” I do not mean to establish whether ID’s brand of teleology is true or false—a question on which, for the moment, I take no position. So, to sum that up, this discussion will consider how an old argument about natural design (the teleological part) is adapted over time to address the democratic sensibilities of an audience while advancing a legendary story.

To accomplish these ends, this chapter will examine two explicitly rhetorical treatments of the teleological argument as it applies to biology: its classic assertion in English from Protestant clergyman William Paley in 1802’s *Natural Theology: Or Evidence of the Existence and Attributes of the Deity, Collected from the Appearances of Nature* and the argument as revised and restated by Lehigh University biochemist and Intelligent Design advocate Michael Behe in 1996’s *Darwin’s Black Box: The Biochemical Challenge to Evolution*. The first purpose here is

to examine the properties of these (as I will consider them) God-of-the-Gaps arguments, which argue that scientific ignorance affirms the existence of the supernatural (or in the latter instance, that lack of detailed evolutionary explanations affirms ID), and to document how ID advocates alternately deny the charge that they are engaging in a gaps argument and defend the validity of gaps arguments in principle. The second purpose is to establish that this tactic is an appeal to the public idea of two-party democracy, in which the logical fallacy of the false dichotomy is an essential operating feature. What I intend to make apparent is that the renaming tactics employed in the previous chapter, and the attempt to definitionally redefine a debate in order to shift the burden of proof from one's own (fringe or minority) position to the mainstream or majority position, are in fact two variants of the same argumentative strategy, which rest on similar ideological grounds and are mutually reinforcing.

What are the features of a God-of-the-Gaps argument, and how does it evolve? God-of-the-Gaps features two principal ideas: 1) all uncertainties about the natural world that cannot be explained by naturalistic means can reasonably be attributed to divine intervention (ignorance proves God); 2) in the event that a previously assumed divine action is able to be explained through naturalistic action, new areas of uncertainty need to be sought out to keep God's domain of the unknown from shrinking (essentially creating the God of the moving goalposts). Historically, this strategy has encountered vigorous philosophical opposition: many argue that it makes faith in God the enemy of science and discovery. An additional problem is that the rate by which science discovers material causes has increased dramatically (and perhaps exponentially) over the last century, leaving fewer natural mysteries unsolved, and hence the putative God with fewer and fewer things to do by gaps rationale. Brown University cell biologist Ken Miller addresses this idea most eloquently in 1999's *Finding Darwin's God*,

largely intended as both a scientific and religious rebuttal to Behe's book, as well as gaps arguments in general:

As a Christian, I find the flow of [anti-evolutionary] logic particularly depressing. Not only does it teach us to fear the acquisition of knowledge, which might at any time *disprove* belief, but it suggests that God dwells only in the shadows of our understanding. (267)

It is important to note, as Miller demonstrates, that among the available rhetorical positions advanced by religious people in the sciences, the design argument is hardly the only option. Many other positions exist, the most accommodating to mainstream science (and Miller's position) one which is frequently titled theistic evolution. By this understanding, God is removed as an individual cause of (most, excluding the more common doctrinal miracles) specific events and instead is the root cause of all creation. Since his creation is definitionally imbued with his omnipotent character, there is little or no subsequent requirement for miraculous intervention into a system already fully adequate to its purposes, or at least miraculous intervention that defies natural law. Such a spirit is in accord with a model of agreement between metaphysics and science that Harvard Paleontologist Stephen Jay Gould referred to as "non-overlapping magisterium," or "NOMA" (22). By this principal, science and religion do not compete for the same epistemological turf, but rather live in accord based on their independent missions and strengths as separate pedagogical spheres, or magisteria. Gould suggests, rather, the adage that we should "let religion decide the Rock of Ages—and science the ages of rocks," meaning that science refrain from ethical proclamations and religion eschew exegetic interpretations of the properties of nature (*Rocks* 22).

But ID advocates generally resist accommodationist views such as theistic evolution, with its rejection of appeals to “gaps,” in a number of ways.¹ Some religious scholars, such as Jack Collins, who is generally sympathetic to ID, rather than denying that ID is a God-of-the-Gaps argument, choose instead to draw a distinction between what Collins calls “gaps in our knowledge” versus “genuine gaps between the properties of the components and the complex structures we are considering” (22). He then distinguishes between “design properties” such as natural law and “design-imposed” objects whose design is not consonant with what we know of unguided forces of nature (23). Essentially, he is reiterating the claim made by most ID proponents that their inference of design is an inference to the best explanation based upon knowledge, and not ignorance. But this argument is hardly new to the contemporary anti-evolution movement. We have to travel a bit backward to locate its own genesis.

Pocket Watches and Mousetraps

“The consciousness of knowing little, need not beget a distrust of that which [we do] know,” boldly argues the Anglican vicar William Paley, in 1802. Thus begins the argument from design that finds its most elaborate expression in English in *Natural Theology*, Paley’s treatise, subtitled *Evidences of the Existence and Attributes of the Deity*. In this work, he employs the famed (and infamous) watchmaker analogy to introduce his argument for design. He begins by supposing

¹ Although Jones and Tyler, as mentioned in the introduction, refer to theistic evolution as (at least potentially) part of the “broad church” of ID (223), what they seem more likely to be referring to is the idea of a God-shepherded evolution more akin to progressive creationism. Other ID advocates are more confrontationally straightforward (and probably more genuine): O’Leary denigrates theistic evolution as “Darwinism with a slight glow of faith,” and Dembski declares that “intelligent design is incompatible with what typically is meant by ‘theistic evolution.’ [...] Theistic evolution takes the Darwinian picture of the biological world and baptizes it, identifying this picture with the way God created life” (240; 110).

that, were we to find a stone in the desert, we might reasonably suppose it had always been there. But what, he asks, if we were to find a watch in the same circumstances? He relates that:

[W]hen we come to inspect the watch, we perceive (what we could not discover in the stone) that its several parts are framed and put together for a *purpose*. e.g. they are so formed and adjusted as to produce motion, and that motion so regulated as to point out the hour of the day; that if the several parts had been differently shaped from what they are, or of a different size from what they are, *or placed after any other manner, or in any other order, than that which they are placed, either no motion at all would have been carried on in the machine, or none which would have answered the use, that is now served by it* [all italics mine]. (2)

In short, if we change out or remove a part, the whole contraption either doesn't work or works wrong. We should not at all be surprised to see where this argument is going: when we see systems featuring multiple parts integrated for a common purpose, "the inference, we think, is inevitable; that the watch must have had a maker" (3). And when we infer design in nature, we, as a matter of course, should assume a designer as well. We might neither be surprised that the mechanical analogy he is making is one that he will then apply to living beings, since Paley has already explicitly disclaimed the design of rocks. His next comparison, predictably enough, is between a telescope and the human eye: "[T]here is precisely the same proof that the eye was made for vision, as there is that the telescope was made for assisting it" (16). Paley will continue on in this vein, in the manner of his day, for 300 additional pages, describing organs and organisms, and then the universe itself, in a mechanistic scheme that explains how they are all clearly designed.

It is important, though, to have a better understanding of the 19th century conception of design within which Paley would have operated, and what design might have meant to him. A watchmaker would have been a kind of artisan, who, like most artisans before the dawn of widespread industrial assembly, would have both conceived and fashioned the watch himself (Dawkins 9). Hence, Paley’s designer is both the mind and hand involved in the construction of his creation. This idea of the designer is important to note, as distinct from the separation of plan and labor that we associate with a modern work force. Hence, Paley is no deist—his God both designs and creates at any time from the beginning onward, and hence Paley’s design argument can be properly termed “creationist” in our modern understanding of the term.

Additionally, Paley’s equation of mechanical assembly with biological assembly—design with design—probably made good sense in the absence of any alternate mechanism, and probably still makes good sense to those who are ignorant of the mechanisms of biological morphology. Although theories of evolution based upon the discovery of fossil sequences in the geological strata were already circulating by *Natural Theology*’s publication in 1802², it would be another 57 years before Darwin would offer any plausible mechanistic means by which discrete species (or novel organs) might come into being. But Paley was not trained in geology (his principal study was mathematics, in which he was formidable) (Eddy xiii), knew little about the fossil record, and the idea of sudden, purposeful, creation fit both well with Paley’s theology and his extensive observations of the biological world. He asserts that the complexity of the human eye demands that “the necessity of an intelligent creator [. . .] could never be got rid of: because it could not be accounted for by any other supposition, which did not contradict all the principles we possess of knowledge” (55).

² Darwin’s grandfather, Erasmus Darwin, among others, had already interpreted the geological strata and the fossil record as progressive in nature and developed theories to support this; what they lacked was any sort of mechanistic explanation to lend these ideas support, funding, or a following (Miller and Van Loon 77).

This last contention is the point at which Paley performs what is perhaps for him inevitable: he conflates a dearth of fact and a surfeit of dogma—for him, “the principles we possess of knowledge”—to calculate that his ignorance reasonably may generate passing certainty about purpose and meaning. This is the very soul of God-of-the-Gaps reasoning: Paley has no idea how an eye might be generated, and in fact no one would have a reasonable guess until Darwin. Yet the equation for the God-of-the-Gaps formulation is to combine certainty about things which one cannot possibly be certain (the existence of purpose in nature) with a conviction that lack of knowledge regarding natural causes implicates divine action. Rhetorically, the implicit assumption is that that which is unknown to the science of Paley’s day (and as we shall see, the science of today) is unknowable; otherwise using ignorance as a positive assertion of God would have to allow for the possibility of God vacating the lofty position of designer were a better naturalistic candidate to be discovered.

I must concede, in fairness to Paley, that any teleological argument is not, reflexively, the same thing as a God-of-the-Gaps argument. One can quite reasonably arrive at a better understanding of the physical world and still maintain a metaphysical sense of purpose, and as modern ID scholars argue, the rejection of claims for the supernatural design of any physical object in favor of a scientific one doesn’t necessarily mean that divine design of physical objects does not exist. However, Paley’s physical kind of teleology, the explicit claim that physical objects have divinely imputed designs and plans, can be ascribed “gaps” status from nothing else than what we know was the ignorance of his day. And this is where this type of teleology encounters its greatest philosophical objection: if arguments for purpose and design are based upon their inability to “be accounted for by any other supposition,” then what becomes of design when these other suppositions exist? (55).

Logically, the teleological argument as it applies to the material world is typically a gaps argument because it sees design in the unknown rather than the known. Fuzzy ideas about anthropic coincidences (the idea that the universe is designed for life) and biological purpose can only remain viable evidence for design (and hence a designer) under the scheme of the false dichotomy by which lack of evidence for naturalistic causes supports supernatural ones.

Let us now jump ahead 194 years. Paley's argument has fallen into wide disuse: printings of *Natural Theology* are rare and the book is principally consulted as a straw man for those who wish to add another refutation to its now discredited polemic. In *Darwin's Black Box*, Lehigh University biochemist Michael J. Behe's seminal work of Intelligent Design theory, he introduces the term "irreducible complexity," since adopted and expanded by other prominent ID advocates. Behe defines irreducible complexity as:

a single system *composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning.* An irreducibly complex system cannot be produced directly (that is, by continuously improving the initial function, which continues to work by the same mechanism) by slight, successive modifications to a precursor system, because *any precursor to an irreducibly complex that is missing a part is by definition nonfunctional* [italics mine]. (39)

Behe's definition should carry the ring of familiarity. In short, once again, if we change out or remove a part, the whole contraption either doesn't work or works wrong. Mainstream scientists on a number of fronts have attacked Behe's idea, but that really isn't the argument's principal obstacle. The problem, rather, is that his definition of irreducible complexity—and hence his

evidence for the same design inference which Paley makes—is simply a paraphrase of the watchmaker argument relocated to the level of human cells.

Before engaging in a discussion of irreducible complexity (IC) as a scientific theory, though, it is important to distinguish between IC and the larger theory of Intelligent Design. While proponents of IC attempt to conflate the two ideas into one (a rhetorical sleight of hand that allows a testable hypothesis to stand in for an untestable one), they are not in fact synonymous. Irreducible complexity is an absolute label applied to physically observable phenomena; as such it does, in fact, fall within the confines of the scientific method. To state that something cannot happen (in this instance revealing a putatively IC system to have evolved incrementally) is to subject the statement to empirical disproof—in short, if what one scientist declares irreducible is found not to be so, the hypothesis containing such an assertion is refuted. Hence, IC does conform to the requirement that scientific hypotheses subject themselves to discredit. For this reason, IC is not, in itself, problematic as science.³

The difficulty, rather, arises when advocates of ID such as Behe assert that the existence of irreducibly complex systems is proof of an intelligent designer. In reality, should any IC system withstand the strictures of even centuries of peer reviewed scientific scrutiny, all the example would serve to do is cast doubt upon, if not outright disprove, evolution by natural selection—and even then only from the microcellular level downward; evolution could still hold past that. As such, IC is, while essentially scientific as we understand the concept, a negative test of Darwinian evolution as a total explanation, and not a positive assertion of ID (*Kitzmilller*,

³ Or perhaps it is more accurate to state that it is not *as* problematic. Actually, irreducible complexity uses the same “moving goalposts” argument that ID as a whole does; individual hypotheses can be disproven, such as, “the human blood clotting cascade is irreducibly complex,” but IC can then simply move on to another system and claim that *that* system is irreducibly complex. Viewed this way, individual hypotheses of irreducible complexity are scientific, but the larger idea itself is not, in that it requires the same impossible standard of disproof (complete and indisputable evolutionary explanations of everything) that ID as a whole does.

“Memorandum” 125). While a valid refutation of Darwinian evolution might strengthen the inference of an intelligent designer, it can only prove the latter if only these two options are available. But this dichotomy is specious at best; it assumes that those methods of naturalistic evolution thus far documented (meaning published) represent not only the totality of existing Darwinian theory, but the totality of any naturalistic theory, present or future, Darwinian or otherwise. According to historian, science writer, and founder of *Skeptic* magazine Michael Shermer:

Beware of the either-or fallacy, or the fallacy of false alternatives. If A is false, B must be true. Oh? Why? Plus, shouldn't B be true regardless of A? Of course. So even if evolutionary theory turns out to be wrong, that does not mean that, ergo, creationism is right. There may be alternatives C, D, and E we have yet to consider (144).

Shermer is, perhaps unwittingly, inviting us to a brainstorming game, one that doesn't actually require an extensive knowledge of the sciences to play. Rather than accept Paley and Behe's dichotomy of Providential design versus a completely random universe (the latter a straw man in avoidance of the point that cumulative design and natural selection are anything but random), why not populate a list of other possibilities? Here are a few:

1) Lamarckism: the belief that evolution is driven by characteristics acquired during the life of a parent organism, which are nevertheless heritable; 2) Bathmism: the concept of an internal “life force” which propels organisms and species toward greater complexity (Numbers 34) The idea that common ancestry is incorrect and life arose in a wide geographical distribution, either concurrently or over a great expanse of time—but still naturally and without miraculous intervention; 4) The notion that there are tiny cosmic wormholes scattered about the face of the

earth, and that, rather than evolving terrestrially, new species are constantly crawling through and arriving from different and distant galaxies; 5) The idea that intelligence is not reducible to matter or mechanism *or* supernatural creation, and that nature itself and its inanimate aspects are imbued with their own consciousness and decision-making abilities.

Why not debate all of these possibilities, rather than simply equate the “irreducible” nature of a problem to one narrowly confined explanation?⁴ The first and second options were once popular scientific hypotheses, the third one still is held by some, and the latter two both lend themselves to falsification more easily (or at least with no more difficulty) than ID.

An irony here is that Behe’s attempt to rescue Paley’s argument from the disfavor that it was cast into by Darwin—in short, the argument’s cultural evolution—demonstrates just how closely cultural evolution itself resembles the biological evolution by natural selection which Behe claims is an insufficient mechanism to describe the formation and diversity of life. Following the analogy for a moment: facing rhetorical extinction at the hands of a more successful species (the biological theory of evolution by natural selection), Paley’s argument, in the hands of Behe, has successfully mutated into an organism that is still popularly viable. It’s a different thing than it was, to be sure, but clearly one that came forth from an ancestral form. This is actually a good example of how evolution by natural selection works; that which adapts, survives.

But ultimately, Behe needs to believe that natural selection *does not* work, or at least does not work nearly to the extent that its proponents are convinced that it does. In order for the God-of-the-Gaps to remain viable in biology, there simply *have* to be gaps remaining to fill.

Unfortunately for modern teleologists, the pace of discovery of evolutionary mechanisms means

⁴ It is great fun to apply Behe’s solution to other fields of academic study: archeologists, lacking of a generally accepted explanation, might ascribe irreducible complexity to the Pyramids at Giza; physicians might describe the solution to the etiology of certain cancers as irreducibly complex; mathematicians could similarly apply it as they saw fit, and climatologists, and so on. In short, it would save much labor were the researchers in all fields to attribute miraculous intervention to difficult unsolved problems and have done with it.

that they are faced with two options: concede defeat and move the interventionist God into another empty space in scientific knowledge (say, prior to the Big Bang); or, set a standard of proof (absolute and permanent certainty) that is admittedly unattainable in a field of knowledge in which all findings are properly regarded as temporary and tentative.

An additional irony is that Behe's argument, which he proclaims as the greatest of scientific discoveries, is scientifically destined to share the same fate that Paley's has. Darwin essentially demolished, scientifically if not popularly, Paley's ideas (which, like those of the modern ID movement are vague) about how species come into being by providing a mechanism that displayed no intelligence and no purpose. "If it can be said to play the role of watchmaker in nature," famously writes the inimitable Oxford biologist Richard Dawkins, responding in 1986 at book-length to Paley, "it is the *blind* watchmaker"(9). Behe's argument, advanced for the same reasons, is already enduring the same barbs. A mere twelve years after *Darwin's Black Box*, continued advances in molecular biology are, by the account of highly respected scientists, making his claims of irreducible complexity seem ill-considered and stubbornly dogmatic (although Behe still defends the concept). Calvin College astrophysicist Howard Van Till has argued that the bacterial flagellum, an attribute of the E. coli bacteria argued by ID theorists to be irreducibly complex, has been prematurely labeled such and can plausibly have evolved through wholly naturalistic means (140). Brown University cell biologist Kenneth Miller devoted a chapter in 1999's *Finding Darwin's God* to providing clinical refutation to Behe's theories regarding the irreducible complexity of molecular machines (129-164). Miller demonstrates, in quite accessible terms, that the molecular machinery of the cell (although, in fairness, not any system which Behe highlights) routinely evolves in laboratory conditions.⁵

⁵ In addition, Behe's own department has penned a disclaimer in order to distance themselves from his participation in the ID movement:

But ultimately, in maintaining an argument nearly identical to Paley's, Behe has, somewhat astonishingly, given his PhD and 200 years of hindsight, concocted the same synthesis of ignorance and dogmatism that makes Paley's argument seem so quaint, dated, and simply *wrong* to leading scholars investigating biology today. Rhetorically, Behe's assertion that molecular machines cannot be constructed by evolutionary processes (and must be intelligently designed) is simply a convoluted admission that he *does not know* how they came to be assembled. He then repeats the fatal logical error of assuming that his ignorance, or perhaps even the general ignorance of the scientific community on this point, is permanent and intractable. As we have discussed, since knowledge in science is neither permanent nor intractable, but tentative and temporary, any assertion that absence of knowledge is otherwise and requires supernatural explication is understandably going to be met with a fair degree of skepticism—as even if he were right about complexity, he would have proven nothing approximating what he argues for.

Behe's crusade is characteristic of the ID movement in general, which seeks by its own admission to supplant naturalism as the ruling paradigm in the sciences. However, the fact that he refuses to identify his theory as a religious one completely removes the sincerity which graces Paley's argument. This is a ubiquitous credibility problem for the ID movement, who despite their organizational successes manage to rhetorically alienate both open creationists and mainstream scientists with their mendacity.

Beyond this, however, ID is actually seeking to return science to a previously held paradigm (a theistic versus naturalistic one), something that has no precedence in the history of the West.

The department faculty, then, are unequivocal in their support of evolutionary theory, which has its roots in the seminal work of Charles Darwin and has been supported by findings accumulated over 140 years. The sole dissenter from this position, Prof. Michael Behe, is a well-known proponent of "intelligent design." While we respect Prof. Behe's right to express his views, they are his alone and are in no way endorsed by the department. It is our collective position that intelligent design has no basis in science, has not been tested experimentally, and should not be regarded as scientific. ("Department")

While Galileo certainly faced an uphill battle, his data eventually trumped Aristotelian dogma as practiced by the Catholic Church (c.f. Drake). The forward evolution of a God-of-the-Gaps argument is necessarily a reductive one, as such a conception of divinity must necessarily shrink as the body of material scientific evidence grows. And yet for all of this windmill-tilting, the false dichotomy crafted so neatly by Paley and recycled by Behe remains popular among an audience that we may assume, in part at least, is fairly educated. Why so?

From Dichotomies to Democracy: Two-Party Rhetoric.

Since *Darwin's Black Box*, like Paley's work before it, sold exceptionally well for a book of its kind, we must ask: Why is the time ripe for Paley's argument to resurface? What is it about Behe's audience that makes it particularly receptive to this kind of argument? We can find many of our answers by examining the discourse of the two-party democracy, a uniquely fertile ground for argumentative polarities, real or imagined. A list of the key features of the two-party democracy and, implicitly, the expectations carried by its participants will illustrate the argument.

It is difficult to escape the frequency with which democracy is invoked in the discussion of ID and more traditional forms of creationism. Communications scholar David C. Klope, in his 1994 study entitled "Creationism and the Tactic of Debate: A Performance Study in Guerrilla Rhetoric," argues that "[t]he first generic value of [creationist] debate is democratic choice" (45). Education scholar Clayton Pierce writes of "Epistemological Faith and the Democratization of Science" (123). In 2003's "The Educational Debate over Darwinism," John Angus Campbell titles his first heading, "Felicity, Deliberative Community, and Democracy" (43). Philosopher

David Hildebrand, by way of title to a 2006 article, asks, “Does Every Theory Deserve a Hearing? Evolution, Intelligent Design, and the Limits of Democratic Inquiry” (217). Rutgers’ Catherine Lugg argues, “By appearing to jump on the multicultural bandwagon, ID proponents have been able exploit broad democratic impulses to substitute theology for science in some school systems [...]” (180). Advocates of ID trot out Harris after Gallup poll announcing that a majority of Americans (for what better and more democratic way to decide?) support teaching alternatives to evolution (“Teach Evolution” 13).

There are two essential problems with all of this democracy-thumping on all sides of the debate: 1) Science is not a democracy, and certainly not the kind of two-party democracy that all of these critics are explicitly or implicitly asserting; 2) Many scholars of rhetoric seem to implicitly accept that it is, or accept that it is somehow desirable that science be conducted through the construction of binaries that are then voted upon by popular plebiscite. Harkening back to our central claim, to make this latter admission is to concede (or gain, depending on where one is standing) significant ground in the debate before making a single assertion of fact. For those scholars who oppose ID, granting it half of a platform is already allowing it an exalted place indeed.

What both proponents and opponents of ID are doing here is conflating two genuinely distinct methods of arriving at policy decisions, and ultimately privileging the democratic model, which is the less stringent and more popularly understood standard. In order to demonstrate this, I must enumerate some key assumptions and attributes of each manner of deciding policy.

First, two-party democracy (TPD): The requirements for participation of the American TPD, it must be noted, are generally not difficult to acquire. In fact, for the substantial majority of the populace, they are nearly impossible to avoid. Since birth on United States soil confers

automatic citizenship, and the Constitution bestows the right to vote upon any citizen eighteen years of age, two entirely contingent events align to form the voting qualifications for all native citizens. No formal degrees, exams passed, publication credits, professional standing, economic success, or degree of moral fiber are implicit or explicit requisites to have a voice in the TPD that is, at least on election day, both the theoretical and practical equivalent of every other participant in the same system. In addition, beyond being one's inherent right, voting is frequently described in popular rhetoric as a civic duty; one is pressured to feel obligated to vote, and ignorance of or apathy toward the issues to be decided is not held to be a valid excuse for abstaining. One need look no further than the self-congratulatory "I Voted Today!" pins and stickers ubiquitously distributed at polling centers each election year to realize that participation itself is valued above selective or discriminating participation.

Second, in a TPD, choices are definitionally exclusive; no share of the political spoils goes to the candidate who finishes second: like the proverbial coin tossed that will not land on its edge, one option utterly displaces the other. Just as in both the criminal and civil courts which operate as a miniature and parallel version of the larger democracy, voters must render a judgment: guilty or innocent; plaintiff or defendant; candidate A or candidate B; Intelligent Design or evolution by natural selection.

Third, in practice if not in principle, the opponents in the most publicized skirmishes in the TPD generally vie in an atmosphere of parity: to claim 60% of the popular vote in any kind of state or national election is to win in an undisputed rout. To be on the ballot at all in such a contest is already to claim a profound stamp of legitimacy. As Klope argues in reference to one-on-one debate between creationists and mainstream biologists, "The spatial arrangement of debate is a tripartite activity: between two opponents and an audience. [...] The arrangement

implies that it is the audience that should choose which of the positions is correct” (45).

Although he does not extrapolate this instance to the larger structure of creationist rhetoric, it is certainly plausible to do so: by placing the two views on equal footing, with no third option, the debate terms are already more favorable for creationists than they would have ever been had they chosen to compete in the scientists’ arena of peer review.

Intelligent Design theory operates popularly through this rhetoric of two-party democracy. In doing so, it plays upon generally unexamined assumptions present within democratic cultures. In a democracy, decisions deemed appropriate for societal approval or rejection are settled through one of several democratic arrangements: ballot initiatives (direct democracy) or representative elections (republican democracy). The democratic standard varies widely within these systems, to be sure: trial juries (in most instances) are held to a standard of unanimity; general elections by simple majorities (either electoral or popular); amendments to various governing documents frequently deal with requisite ratios such as 2:1 or 3:1. Whatever the arrangement or standard, however, the fundamental concept is that truth is decided by some form of plurality or majority; the number of people adhering to a particular view is held to be evidence of its factual correctness.

To demonstrate a specific ID application of this argument, let Michael Behe again set the tone for us. Discussing the metaphysical implications of ID, he argues, “[t]he dilemma is that while one side of the elephant is labeled intelligent design, the other side might be labeled God” (233). Then comes his quintessentially democratic appeal:

A non-scientist might ask the obvious question: so what? The idea that a being such as God exists is not unpopular—far from it. Polls show that more than 90 percent of Americans believe in God, and that about half attend religious services

regularly. [...] With all this public affirmation, why should science find it difficult to accept a theory that supports what most people believe anyway? (233)

Why indeed? Suppose we do a turnabout and accept Behe's argument that his negative argument against evolution does, in fact prove ID? What then would be the harm in allowing majority opinion to inform science's views about God?

As a total, rather than a selective, philosophy, this concept is not a difficult one to explode, even if we maintain the analogy of the political democracy: the Constitution of the United States is a document crafted by people of legal and governmental expertise, specifically intended to place certain decisions beyond the purvey of the electorate, who were and are rarely expert in government or law. In fact, the larger idea of representative democracy is to allow the public to appoint experts in these fields to advocate the concerns of the public who select them. The idea has a certain, difficult-to-assail, sense about it: although a person untrained in automotive mechanics is a poor choice to repair an automobile, that individual is best left, according to democratic rhetoric, to select his or her own mechanic to perform the task.

Material science operates in many ways like an indirect, rather than a direct democracy. Those trained in the sciences of astrophysics and biology, the fields principally concerned with cosmological and biological origins and evolution, are selectively funded by the decisions of others. They are "elected" of sorts by what financial resources others in the public and private sector choose to allocate to them. They are in turn reelected or replaced based on the fruits of their labor; scientists that produce results that reveal material truths, point toward those truths, or have ostensible practical application for the common good tend to remain in favor, both among those that fund them and their peers in the scientific community. Those that fail to produce any of these effects tend to lose funding. However, the democratic analogy only holds so far: a

scientist without funding, unlike a politician without office, is not powerless: she may pursue research by myriad other means, with limited or no funding, and still change the course of science, whereas a politician without office or a lawyer without accreditation can do little to change the course of law or governance. While scientists work best with the approval of their peers and with adequate financing, they may still produce valuable contributions while out of favor with these constituencies. In this manner, they need not slavishly court the public concern in all of their endeavors.

More importantly, however, science does act democratically in that, once its research aims are “elected” via grants, it may pursue its own aims with its resources. And, like elected public servants, scientists have great autonomy within the temporal and operational constrictions of their grants. They are elected to make discoveries, but the discoveries to be made are not (or at least should not be) either implicit or explicit when they are funded to conduct an inquiry. In short, the truths of science are not subject, nor should they ever be, to public consensus.

Rhetoricians of ID such as Behe wish to invert this most basic and essential of scientific paradigms: they wish to promote the idea that, because the majority of Americans believe in some form of creationism, that creationism has a legitimate place in the academic discourse of science. This logic flies in the face of the history of empiricism, in that many, if not most, scientific advances faced initial public suspicion, if not outright scorn and rejection. Copernicus was, after all, for centuries dubbed a heretic for assailing the geocentric conception of the solar system.

Essentially, ID proponents suggest that scientific truth is: 1) A thing subject to public approval; 2) A thing not to be entrusted to those most highly trained in scientific research and discovery; 3) Something that must be given balanced, equal time from opposing views,

regardless of quality. Since the rhetoric of the two-party democracy also shares these ideas of glorifying popular control, mistrust of authority, and opposing views to provide balance, it is a natural fit for ID creationists.

CONCLUSIONS

In the course of crafting this argument, a number of conceivable objections to it have occurred to me. What I will endeavor to do here is address a partial list of them in the hopes of, in retrospect, clarifying the goals of this project. It is impossible, of course, to anticipate a comprehensive table of every possible criticism of a work that is constrained by, among other things, its own brevity. But I do believe that something more should be said in defense of the project's scope and organization, before I add a brief summary and some concluding remarks.

One difficulty I faced in tackling a topic so truly broad was establishing borders of what should and should not (or could not) be discussed. And a reasonable question that a reader might well ask is, "Why didn't you simply select a topic less broad, or at least limit your analysis to a single work representing the ID argument?" I confess that during a number of points in the process, I was tempted to do exactly that. There were several good reasons that I did not. First, if there is anything one takes from a broad sampling of the ID literature, it is the relentless sameness of it. If we understand ID as a social movement rather than a scientific argument, this is understandable. The focus of these works is not scientific innovation or discovery (the Discovery Institute's inapposite moniker aside) but, of a piece with the democratic appeal, rhetorical consistency and broad circulation. In order to establish this, and to trace the movement's roots in Paley's theology, it was necessary to cross a number of primary texts and remark on their points of agreement, the famed "talking points" now ubiquitously representative of politicized discourse. Some might view this as the kind of quote-mining and cherry-picking of facts to confirm preexisting beliefs of which ID rhetors are frequently accused. In response, I can only encourage those interested to examine the primary texts for themselves in order to test

my assertions. The reader will find the same baseless attacks on the Darwinian mechanism, the same accusations of a naturalist/materialist/atheistic conspiracy in science to banish the Designer to the fringes of society, and the same total absence of any original research to advance the movement's rather extraordinary claims.

A second reason (or perhaps simply a way of restating the first one) that I chose to sample multiple texts rather than a single one was the lack of any special rhetorical or literary innovation in any particular example. Reactionary thought can be some pretty dreary stuff, and the contentions of this group of people trying to advance claims 150 years past their sell-by date are no exception. Since ID defines itself, as we saw in the introduction, on its common views as a means of avoiding tensions among differing religious factions, originality of argument is simply not a priority for ID advocates. To devote extended analysis to any individual work in this sea of carbon copies struck me as providing more attention than any one was due. The notable exception is Paley, whose influence on later thought is indeed substantial, and who is both deserving of and accorded his critical due elsewhere.

A follow up then, to this first objection might take the form of: "If these authors are so dull, why bother with them at all? Surely there were books you liked?" But there's the rub: these books are compelling to *somebody*, or they wouldn't all be published. The fact that this discourse held such limited appeal for me (in fact, I find it generally repellant) when it is so convincing to others was, paradoxically, a large part of the reason I chose to study it. I was drawn to what Albert Hirschman eloquently describes as "the massive, stubborn, and exasperating otherness of others" (ix). And that doesn't touch upon the massive practical importance that the continuance of this debate has for American public education.

A second potential criticism I wish to address is that by placing the rhetoric of ID in one camp and that of mainstream science in another, I have created the very kind of spurious dichotomy that I elsewhere seek to call into question. By this, I mean that one could complain that my analysis is performing the ID argument in reverse: casting doubt upon the assertions of ID somehow defends the arguments of mainstream science, in particular evolutionary biology. To this I reply that this organization is more coincidental than anything else, and that, for me anyway, the rhetoric of evolutionary theory is in no way bolstered by the successes or the failings of ID rhetoric. Tearing down ID to build up Darwin is really no less ingenuous a strategy than the reverse that ID rhetors employ to such great effect. Rhetorical criticism of evolutionary biologists' writings from Darwin up through Dawkins and Gould is certainly a worthwhile project, but one recommended with the explicit caveats that evolutionary arguments stand or fall on their own, regardless of the fate of antievolutionary invective from the proponents of ID. To recognize this is probably also to recognize why many scientists are so comfortable simply ignoring the writings of creationists.

But more importantly, we should recognize that "mainstream science" on the one hand and "Intelligent Design" on the other certainly do not entail the full spectrum of argumentative positions, or at least to not create borders as neat as those I may have accidentally implied. Ultimately, part of this possible misunderstanding arises from my choice to examine different definitions of ID as circulated by the movement's proponents and deciding, following their lead, to exclude various deistic notions as well as theistic evolution from extended consideration. These ideas muddy the waters considerably between creationist and naturalist positions, and raise more questions than they answer about what we might accept as the intelligent design of the

cosmos. My principal concern was with the more overtly creationist forms of the capitalized ID—the “official version,” if you will, endorsed by the Discovery Institute.

Nevertheless, in the era of “with us or with the terrorists,” it is eminently important that we do not subscribe to utterly contrived binaries. So I disclaim any intention of accepting the suggestions of ID advocates that we must be with them or with the Darwinists. This latter view paints an absurd caricature of the world in which fence-sitters, wafflers, and those generally indifferent to the discussion (the three categories probably comprising the majority of people) simply do not exist. As I argued in the beginning, to accept the dichotomy as representative of the debate (rather than to employ it as a means of convenience) is to cede valuable ground to those who wish to replace science with a diluted, ersatz version of itself, hitching it back to a centuries-old design argument that has no basis in the modern scientific literature, but retains an enduring popular appeal.

ID is a potent cultural and rhetorical force; this much is beyond question. The fact that the movement has brushed off its most recent defeat in Dover and carries on with initiatives to undermine evolutionary teaching, at the time of this writing, in Alabama, Florida, Louisiana, Michigan, and Missouri, speaks forcefully of the resiliency, savvy, and dedication of its adherents (“Evolution”). Much of the reason for this can be found in the examination already presented: ID creates terse, pithy summaries of its key terms and sells them through broad exposure and forceful repetition, as in the case of selecting a magnificent title for its own advocacy and a particularly incriminating one for the movement which it opposes, as we saw in Chapter One. Additionally, the idea that all doubt about scientific processes affirms ID, as presented in Chapter Two, remains as powerful an appeal in our day as it did in Paley’s. Scientific ignorance never really shrinks, for science, paradoxically, makes us aware of

continually aware of new frontiers of our ignorance. Discovery carries with it caveats; we are told with each new frontier of physical knowledge that is cleared what new uncertainties are discovered; the God-of-the-Gaps can, ultimately, never really be dispelled. He is a potent force of metaphysical affirmation.

And here I will finally become overtly polemical: Intelligent Design theory is an odious proposition and a needlessly divisive cultural force for the very reason that it casts anyone outside of its net as a “Darwinist”—some kind of general undesirable who rejects design for reasons both strictly philosophical, immoral, and factually misguided. It posits an idea that, nominally and in more general terms of definition, is amenable to all Christians and many secularists: that the universe and biological life reflect a purposive intelligence. Yet this purpose is confined by ID to a particular kind of interventionist (meaning miraculously operating) deity who does not act in a manner consonant with the well-supported findings of the physical sciences. ID, as documented through the writings of its principal rhetors, is not inclusive of the many theists who believe in (or at least allow the possibility of) a god who expresses an intelligent plan through naturalistic means: ID is rather an enterprise consonant only with earlier forms of creationism which consider fully naturalistic evolution to be impossible based upon the prior religious commitments of the theory’s main advocates. As philosopher Patrick Byrne states in a rebuttal to Cardinal Christoph Schönborn’s endorsement of the ID movement in a 2005 *New York Times* op-ed piece, “The kind of argument used by proponents of intelligent design seeks to find signs not merely of design, but design by intervention” (656). Given a larger examination of the literature, it is difficult to disagree. ID is sectarian and combative, seeking not to build rapport with but to exclude those with whom it might most successfully find compromise.

If such were not the case, then accomplished scientists who believe in evolution and are also theists (such as Ken Miller, Howard van Till, and human genome detective Francis Collins) would not be excluded from the parameters of the ID movement, as they in fact are. This exclusion is unfortunate, as an actual “big tent” of intelligent design might reasonably include all theists (and perhaps even an agnostic or two) and allow them to internally discuss their differences of opinion regarding divine action in the physical world, as well as join in meaningful dialogue with those in science who are actual atheists. Intelligent Design may well succeed in creating a wedge to overturn materialism, but with the regrettable side effect of driving a wedge between creationists and their Christian and other theist contemporaries, “the accommodationists,” as ID advocates derisively label them, who are probably the best hope for science in reaching religious fundamentalists who reject it most reflexively (Wilson 64).

By locating ID in opposition to methodological naturalism (either theistic or atheistic), ID advocates invoke, as already discussed, a Paleyan natural theology in which the belief that stochastic processes can create the complexity of biological life is definitionally atheistic: but this is simply not so, unless one accepts the idea that one sort of Christian has the right to decide what other sects fall within the faith, and, as importantly, the right to decide who is either secretly or unconsciously a nonbeliever. It is impossible to overstate this idea, because the suasive tactics that are employed to promote either evolution or ID are critically relevant to concluding why people hold these beliefs. In other words, telling other theists that their belief in evolution is atheistic and that belief in ID is godly is hardly making an argument about beliefs at all but rather making a summary judgment about the people who hold them; it is a paranoid argument that creates enemies out of thin air.

Many theists, in fact, find God enlarged and not diminished by the revelations of science, and ignorance of material processes is neither reasonable proof nor disproof of a designing intelligence; the ostensible appearance of design in nature is not necessarily proof of God nor is the putative explanation of evolution by natural selection disproof. These are theists that can find their deity in places other than a literal interpretation of scripture or the deficiencies of science—people for whom Christianity and Creationism are not synonymous.

And Intelligent Design is creationism, without question. This assertion can be verified any number of ways: as is exhaustively documented by Forrest and Gross, a number of prominent ID advocates referred to themselves as creationists before they were aware of the political infelicity of doing so; some CSC fellows, such as Dean Kenyon, have testified under oath as creation scientists (Forrest, “Understanding” 7). Going the long way, one can see that the descriptions of creationist rhetoric among language scholars and scientists are identical prior to and following *Edwards, Pendas*, and the ensuing sudden drive to rename the creationist enterprise, as was discussed in our first chapter. More tellingly, the arguments advanced in works owning the description “creationist” and works espousing ID are also identical. If anything, ID is a refinement of traditional forms of creationism by reduction rather than addition, as references to a scriptural Creator, the Noachian flood and other openly biblical allusions have been strategically deleted in attempts to pass constitutional muster.

One part of the problem that scientists face, however, in resisting ID is of their own making, through their insistence that the debate about evolution is one of fact versus rhetoric. Science is and scientists are rhetorical. Science has rhetorical conventions and standards which differ (particularly in presentation) from those employed by creationists, but even then, scientists generally resort to many of the same types of suasion—meaning the same traditional emotional,

logical, and authoritative appeals—as anyone else when writing for a popular audience. The argument that science is not a rhetorical enterprise probably contributes to the perception among some of the public that scientists are haughty and distant, handing down their self-determined truths in packages not to be examined by those outside of their particular field and disciplines. This is regrettable on a number of levels, not the least of which is that the logic is self-contradicted by the assiduous appeals of the scientific community to the legal system to enforce the parameters of science.

Additionally, if the enterprise of science is not rhetorical, if, say, instead its mission is simply to reveal truths about nature that will, in retrospect, seem axiomatic to its audience, then the entire idea of studying scientific rhetoric has been a colossal waste of time. I believe and hope that this later scenario is not the case. Scientific findings are, as is correctly asserted by ID advocates and other creationists, an act of interpretation. If interpretation is to be accepted as fact (or become fact, depending on how relatively we wish to speak), then suasion is required. To argue otherwise is to contend that scientists not only have a monopoly on the creation of knowledge, but are also sole guardians of its proper reception and discernment.

Resolution to the teleological impasse, though, probably depends on whether practitioners of science as defined by methodological naturalism and those who believe that such practice is confining and unfairly exclusive can reach a consensus on epistemic norms. One might argue that the ground rules of seeking knowledge would have to be enlarged to accommodate both ideas about inquiry into the natural world. This seems particularly unlikely, as the scientific naturalists would doubtless envision such as conceding ground (and properly so), gained at the expense of traditional literalist forms of religious (particularly Christian) cosmology, hard-won over centuries. Furthermore, such a compromise would be in effect useless. Even if such a

concession on procedural rules were made, scientific naturalists would likely continue to dismiss the findings of teleologists as bogus even were they to concede the possible legitimacy of their methods. Teleologists, conversely, would not be appeased, because, as stated in their own literature, their goal is not coexistence with naturalistic science but its ultimate overthrow and defeat. In the words of ID rhetor Denyse O'Leary:

Materialistic ideology has subverted the study of biological and cosmological origins so that the actual content of these sciences has become corrupted. The problem, therefore, is not merely that science is being used illegitimately to promote a materialistic worldview, but that this worldview is actively undermining scientific inquiry, leading to incorrect and unsupported conclusions about biological and cosmological origins. At the same time, intelligent design (ID) offers a promising scientific alternative to materialistic theories of biological and cosmological evolution -- an alternative that is finding increasing theoretical and empirical support. Hence, ID needs to be vigorously developed as a scientific, intellectual, and cultural project. (*Uncommon*).

So ultimately, we end where we started: ID and “unsupported conclusions” against the “promising scientific alternative” of ID. If there is a way out of this impasse, it seems unlikely to spring forth in the poisoned well of the polarized current rhetorical climate, created mainly by the ID advocates themselves. As long as the false binary continues to be employed by ID advocates, lionizing them and demonizing their enemies, there will be no fertile ground for debate unless the mainstream of science concedes, by accepting the purported dichotomy between design and Darwinism, an amount of discursive ground that it simply has no reason to,

given the unacceptably high cost of the concession. In short, the polarization, by design, of this rather acrimonious debate seems better suited to perpetuate than resolve it.

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