

Thomas Nagel and the Scientification of Intelligent Design

David Poplar

In nearly a century since the Scopes “Monkey Trial” there have been many cases that have litigated whether a religious-based worldview about the origins of humans could be taught in public school. Every attempt has been challenged as a violation the Establishment clause of the First Amendment, and so far, every attempt has been rejected by the courts. However, with each new attempt, the religious worldview is repackaged in a slightly different way, increasingly trying to cloak itself in science and downplay its religious significance. Intelligent design (ID) – the baseline claim that life is too complex to have evolved without the intervention of a supernatural agent – represents the most recent expression of this effort. It has been supported predominantly by religious adherents who promote it as a scientific theory. When this proposed theory was put to the test, however, it fared no better. In striking down a local school board’s policy that injected ID into the public school’s science curriculum, a federal judge held that ID was not a scientific theory but a fundamentally religious one, and introducing it into public school would violate the Establishment Clause.

This was unquestionably a huge legal setback for those promoting the religious worldview, but advocates have not been deterred. In fact, they recently have been receiving support from some unexpected quarters: secular philosophers. The most prominent of them is atheist Thomas Nagel, who has publically criticized the theory of evolution and argued that ID deserves scientific respectability. Although any such argument necessarily would have implications for the potential of ID to become part of a public school curriculum, Nagel has not been satisfied with the mere implication; he has specifically argued that teaching evolution in the

public classroom *without* introducing ID would be irresponsible. Are Nagel's arguments, coming from a non-religious perspective, now the most recent cloak of respectability for ID? What, if anything, do his philosophical arguments about science contribute to the debate?

This paper explores Nagel's arguments in favor of recognizing ID as a scientific theory that is appropriate for public education. First, to place the issues in context, the history of ID and its origins in creationist fundamentalism will be discussed, showing how it has evolved to seek scientific credibility as a reaction to legal precedent. Next, Nagel's views on ID will be introduced, in light of his past philosophical work and his historical views on science, and then specifically as they have been laid out in his article "Public Education and Intelligent Design." These views will then be critiqued, leading to the conclusion that Nagel's arguments for recognizing ID as a scientific theory are flawed, suffering from a problematic conception of science, and they ultimately contribute nothing new or substantive to the discussion.

1. Creationism in the Public Schools and the Evolution of ID

The *Scopes* trial of 1925 certainly added fuel to the national debate, but it had no constitutional significance and was not a binding legal precedent.¹ (*Scopes*) For the years following the trial, the debate continued,² although Darwin's theory of evolution by natural selection became solidified as the explanation of human origins in most public school science textbooks. (Thomas 59) The United States Supreme Court was finally asked to weigh in on the

¹ While the Tennessee Supreme Court ultimately threw out *Scopes*' conviction, it did so on procedural grounds, holding that the trial judge erred because he, and not the jury, imposed the penalty. In fact, the Tennessee law was not officially repealed until 1967. (Smith)

² Although Bryan died shortly after the *Scopes* trial, his efforts to support the teaching of creationism had a long-lasting effect. For years before the case he had toured the country, speaking against evolution and lobbying for laws forbidding its teaching in public schools. (Larson 508)

issue in 1968, when it heard a challenge to an Arkansas anti-evolution statute. In *Epperson v. Arkansas*, the Court considered a 1928 law that prohibited the “teach[ing] of the doctrine or theory that mankind descended or ascended from a lower order of animals.” (*Epperson*) (*Initiated Act no. 1. Ark. Acts 1929*) In no uncertain terms, the Court held that the Arkansas statute violated the Establishment Clause, because its justification was solely a religious one.

The Court’s opinion finding the law unconstitutional was unanimous and resolute, but what is most interesting is the wording of the Arkansas statute itself. It was passed just a few years after *Scopes*, and was essentially the same as the Tennessee law – except for the fact that it dropped the overtly religious terms such as “divine creation” and “as taught in the bible.” These omissions did not go unnoticed by the Court, which also referred to the law as the product of the “‘fundamentalist’ religious fervor of the twenties.”³ (*Epperson* 98) That 1928 law represented one of the earliest attempts at intentionally downplaying the religious foundation of a law designed to bring religion into public school – but there would be many more attempts to come.

In fact, Arkansas tried again. Refusing to accept defeat, or desiring to remain on the forefront of unconstitutional religious-based public education, the Arkansas legislature passed a statute that required the teaching of creationism in the public school classroom whenever evolution was taught. This law, passed in 1981, was titled the “Balanced Treatment for Creation-Science and Evolution-Science Act (Act 590),” and mandated that equal classroom time be given for what was now termed “creation-science” in all programs that involved “the origin of man, life, the earth, or the universe.” (*Balanced Treatment for Creation-Science and Evolution-Science Act*) The law specifically defined “creation-science” without any reference to the bible

³ In fact, as a direct result of Bryan’s efforts, in the 1920s there were no less than 45 anti-evolution bills introduced in 20 different states. (Superfine 907)

or divine creation.⁴

That law was challenged in federal district court in 1981 in *McLean v. Arkansas Board of Education*. The judge applied the test that had been announced ten years earlier in *Lemon v. Kurtzman*, which provided three requirements that a law must meet to pass muster under the Establishment Clause. They are: first, that the law must have secular legislative purpose; second, its principal or primary effect must be one that neither advances nor inhibits religion; and third, that the statute must not foster an “excessive government entanglement with religion.” (*Lemon* 612-613) In terms as definitive as those used by the Supreme Court in *Epperson*, the judge found the law unconstitutional. It failed all three prongs of the *Lemon* test. (*McLean* 1264-1272)

Again, what is most telling is the history of the law. In his opinion, the judge detailed the influence of the Institute for Creation Research, describing how the wording of the law was actually taken almost verbatim from ICR writings. Moreover, the person most responsible for lobbying legislators to pass the law (who was not an educator, scientist, or legislator), wrote to other legislators and supporters about his explicitly religious motivations in promoting the law – but cautioned them not to present their support for the law in religious terms so as not to undermine the “legislative thrust.” (*McLean* 1262)

More than ever before, and due largely to the first prong of the *Lemon* test that analyzed

⁴ The definition of “creation-science” read as follows:

- (a) "Creation-science" means the scientific evidences for creation and inferences from those scientific evidences. Creation-science includes the scientific evidences and related inferences that indicate: (1) Sudden creation of the universe, energy, and life from nothing; (2) The insufficiency of mutation and natural selection in bringing about development of all living kinds from a single organism; (3) Changes only within fixed limits of originally created kinds of plants and animals; (4) Separate ancestry for man and apes; (5) Explanation of the earth's geology by catastrophism, including the occurrence of a worldwide flood; and (6) A relatively recent inception of the earth and living kinds.

the law's secular purpose, the court was able to look into the actions of those promoting the law as a reflection of the true motivation. (Moore) Although *McLean* was a federal district court case and thus constitutes only non-binding precedent, it exposed even more clearly how the continuing efforts to characterize religion as science were not made to reflect any kind of scientific developments, but but for the purpose of adhering to legal precedent.

The most important decision in shaping the current debate came from the Supreme Court a few years later in 1987, in the case of *Edwards v. Aguillard*. This involved another “balanced treatment” act like Arkansas’ Act 590, this one from Louisiana.⁵ Applying the *Lemon* test, the Court held, like the judge in *Epperson*, that the law violated all three prongs. (*Edwards*, 585-594)

However, when one hand taketh away, the other hand giveth. An observation was made in the majority opinion and then amplified in the dissenting opinion of Justice Scalia that served to plant the seeds for ID. In what was essentially dicta at the end of the opinion, the Court stated:

We do not imply that a legislature could never require that scientific critiques of prevailing scientific theories be taught. ... [T]eaching a variety of scientific theories about the origins of humankind to schoolchildren might be validly done with the clear secular intent of enhancing the effectiveness of science instruction. (*Edwards* 593-594) (footnote omitted)

In a lengthy dissenting opinion, Judge Scalia explicitly questioned the *Lemon* test, but maintained that regardless of the test's applicability, it would be improper to conclude that the Louisiana legislators had a non-secular motivation, or that the law advanced religion. In his view, even if a law specifically fostered Christian religious beliefs, it would not be unconstitutional if it still had, in addition, a genuine secular purpose. (*Edwards* 610-640) He also objected to what he deemed to be an “instinctive reaction” that any law that regulated the

⁵ Louisiana's act even had a nearly identical title: the "Balanced Treatment for Creation-Science and Evolution-Science in Public School Instruction" Act. (*Edwards* 580-581)

teaching of evolution was necessarily the result of fundamentalist repression, and most importantly, expounded upon the Court's observation about the permissibility of scientific critiques of scientific theories:

The people of Louisiana, including those who are Christian fundamentalists, are quite entitled, as a secular matter, to have whatever scientific evidence there may be against evolution presented in their schools, just as Mr. Scopes was entitled to present whatever scientific evidence there was for it. (*Edwards*, 482 U.S. at 634)

It is difficult to overstate the lasting significance of these two short passages. In them, creationists found a new blueprint for how to get their belief system finally past the courtroom and into the classroom. They would not just claim their religious views constituted a scientific theory, but would now primarily focus on “whatever scientific evidence there may be against evolution.” In doing so, they would claim that any evidence suggesting that evolution was improbable or an incomplete explanation was evidence in support of their beliefs about creation, and they would promote this new approach aggressively in the courts as well as to the public at large. (Pennock 146)

In fact, it was not long after *Edwards* that the Discovery Institute, the organization that is most responsible for creating and promoting the concept of intelligent design, was formed by a law professor named Philip Johnson.⁶ (Forrest 10) Around this time, Johnson also wrote *Darwin on Trial*, which criticized evolution and materialism, and proposed the theory of intelligent design as the most logical explanation. (Young and Edis 3; Johnson) By 1996, the Discovery Institute's Center for the Renewal of Science and Culture was formed by Johnson and other

⁶ Despite the non-religious nature of its name, the Discovery Institute is far from secular. From its inception, it received multi-million dollar grants from billionaire Howard F. Ahmanson, Jr. (the founder of Domino's Pizza and contributor to multiple Christian conservative causes) and the Maclellan Family Foundation, which supports groups who are dedicated to “furthering the Kingdom of Christ.” (Thomas)

prominent ID-advocates, including Stephen Meyer, William Dembski, Michael Behe, and Jonathan Wells. (Forrest 20) Over the following years, the Discovery Institute continued to work towards its goals, which included, among other things, forwarding informational materials and making an in-person legal presentation to a small school board in Dover, Pennsylvania.

(Kitzmiller 750)

From 2002 through 2004, certain members of that Dover school board had sought (with the help of the Discovery Institute) to integrate creationism and ID into the 9th grade biology materials. This culminated with a resolution to amend the curriculum to require teachers to read a prepared statement⁷ to the biology classes to make students “aware of gaps/problems in Darwin’s theory and of other theories of evolution including, but not limited to, intelligent design.”

(Kitzmiller 757; Superfine 910) Shortly after the statement was released, eleven Dover parents, along with the American Civil Liberties Union and Americans United for Separation of Church

⁷ The prepared statement read:

The Pennsylvania Academic Standards require students to learn about Darwin’s Theory of Evolution and eventually to take a standardized test of which evolution is a part.

Because Darwin’s Theory is a theory, it continues to be tested as new evidence is discovered. The Theory is not a fact. Gaps in the Theory exist for which there is no evidence. A theory is defined as a well-tested explanation that unifies a broad range of observations.

Intelligent Design is an explanation of the origin of life that differs from Darwin’s view. The reference book, *Of Pandas and People*, is available for students who might be interested in gaining an understanding of what Intelligent Design actually involves.

With respect to any theory, students are encouraged to keep an open mind. The school leaves the discussion of the Origins of Life to individual students and their families. As a Standards-driven district, class instruction focuses upon preparing students to achieve proficiency on Standards-based assessments. *(Kitzmiller 708-709)*

and State, filed a lawsuit in federal court against the Dover Area School District School Board, challenging the policy regarding the inclusion of ID in the school curriculum. (*Kitzmiller* 709)

The trial took place over a six week period, involved 33 witnesses, and produced approximately 6,000 pages of testimony. (Superfine 911) On December 20, 2005, Federal District Court Judge John E. Jones handed down his 139-page opinion, in which he ruled that that the school board's actions violated the Establishment Clause. The judge found that the school board violated all three prongs of the *Lemon* test, and also failed the more recent "endorsement test" announced by the Supreme Court in *Santa Fe Independent School District v. Doe*, which asked the question whether an objective observer would understand the action in question as a state endorsement of prayer in public school. (*Kitzmiller* 713)

This was obviously a devastating blow for ID, but its supporters remain committed to the crusade for its public acceptance. More than ever, these efforts has been focused on building scientific credibility, because if it can be regarded as science, it can overcome the religious motivations that have so far kept it out of the public classroom.

2. Public Education, Intelligent Design, and Secular Philosophy

Contemporarily speaking, philosophy has been a largely secular discipline. Although there have always been philosophical arguments offered against evolution and in support of creationism, they were typically offered by theologians and other religious adherents. (Ruse) For example, one of the most prominent and long-standing anti-Darwinian voices is philosopher-theologian Alvin Plantinga of the University of Notre Dame, who maintains that, among other things, a belief in god is a "properly basic" belief that can be valid without any justification. (Plantinga) Plantinga makes no apologies for his apologetics – he is a devout Christian and a

staunch advocate of ID. (Ruse)

Over the past few years, however, there have been a number of secular philosophers who have spoken favorably about religion. (Ruse) This includes “accommodationist” philosophers like Elliott Sober and Michael Ruse, who believe that religion is generally not incompatible with a scientific worldview, although they both believe in evolution and are critical of ID. However, more recently, perhaps influenced by the scientific fanfare around the 150th anniversary of the publication of Darwin’s *Origin of the Species*, a number of secular philosophers have publically criticized Darwinian natural selection and evolution. (Ruse; Leiter and Weisberg) The most prominent of these is Thomas Nagel. He has been vocal in criticizing evolution as an incomplete explanation for life, and argued that ID should be treated as science – even to the extent of being an appropriate topic for public school science education. This raises the question: Why would Nagel, a well-respected philosopher and professed atheist, argue so forcefully and publically in support of this? Do his philosophical arguments bear on the scientific credibility of ID?

A. Nagel’s Arguments

In his 2008 article, “Public Education and Intelligent Design,” Nagel explicated his views on the subjects. He began by discussing the *Kitzmiller* decision, and although he did not disagree with the result because of the reckless way the school board members revealed their religious motivations, he found the underlying dispute was emblematic of an “intellectually unhealthy situation.” (Nagel 187) He believed that there was a backlash largely created by the scientific establishment’s fervent efforts to promote evolution and discredit ID: a reaction that had developed into “a counterorthodoxy, supported by bad arguments, and a tendency to overstate the legitimate scientific claims of evolutionary theory.” (Nagel 187) His ensuing arguments can

be divided into two broad categories: the first involves a philosophical discussion on why he believes ID should be treated as a scientific theory, and the second offers thoughts about how ID should be approached in the classroom.

To understand his arguments about ID and the nature of science, it is helpful to view them in the larger context of his work. Nagel is most prominently known for his seminal article on philosophy of mind, *What is it like to be a bat?* in which he describes the difficulty of ever being able to experience or even describe another creature's phenomenological consciousness or qualia – what it would *feel like to be* that creature. This highlighted the limitations of a materialistic and reductionist science and cast severe doubt about its ability to explain such subjective features of existence.

As this might suggest, Nagel has been critical of hardline reductionism. In his most recent work, the provocatively titled, *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False*, he described psychophysical reductionism as a philosophy that is “largely motivated by the hope of showing how the physical sciences could in principle provide a theory of everything” which for Nagel is an entirely false hope. (Mind and Cosmos 4) This skepticism has drifted beyond theoretical questions about philosophy of mind and a general cynicism of a reductionist monism, into severe doubts about hard sciences like biology: “[F]or a long time I have found the materialist account of how we and our fellow organisms came to exist hard to believe, including the standard version of how the evolutionary process works.” (Mind and Cosmos 5, 9) Nagel also mentions that his rejection of evolution is partly motivated by a sympathy towards intelligent design and its promoters, because he thinks they are met with a degree of scorn from the scientific community that is “manifestly unfair.” (Mind and Cosmos 10)

Essentially, Nagel's criticism is aimed at science as a discipline, which he views as being premised upon a strict (and almost arrogant) reductionist approach that purports to be able to explain all mental and physical phenomena solely in terms of the laws of physics. Still, Nagel is not a dualist; he does not suggest that mental or physical processes are somehow governed by the supernatural. He does, however, find that evolutionary theory (if not science in general) is a woefully incomplete explanation for those processes, in large part because he finds the explanation simply too improbable. (Mind and Cosmos 5, 9-10)

This brings us back to Nagel's argument in "Public Education and Intelligent Design" regarding why he thinks ID should be regarded as science. For starters, he takes issue with the way that ID has been dismissed for not being scientific, and points out what he considers to be a very telling contradiction in the accepted scientific view: Any evidence offered to support ID is not considered scientific by the scientific establishment because it does not consider ID to be a scientific theory; but at the same time, any evidence offered to undercut ID *is* considered scientific by the scientific establishment. (Nagel 193) Given this approach, Nagel thinks ID can never get a fair shake. His point is that if evidence against ID (and in favor of evolution) can be considered scientific, then the evidence against evolution (and in favor of ID) should also be considered scientific. (Nagel 193-194)

He next confronts a larger epistemological issue about the approach one takes to the issue: Starting out, either one believes that the existence of a god is a possibility or they do not. However, the latter belief (that god is not a possibility) is problematic because it cannot be supported with empirical evidence, so the default position must be that god is at least a possibility. As a consequence, any evidence offered to support ID (the claim that god is an intelligent designer) cannot be rejected outright for being not scientific – but to the contrary,

because the god hypothesis is possible, the evidence in support of ID is scientific because it is evidence offered to support a possible hypothesis. Therefore, the most that a critic of ID could say is that ID is scientifically mistaken, but they still must concede that it is scientific. (Nagel 195) Finally, Nagel bolsters this conclusion by pointing out that unlike creationism or creation-science which is often contradicted by the empirical evidence (and relies on problematic contortions of these facts to fit a biblical narrative), ID is not contradicted by empirical evidence. (Nagel 195-199) In short, Nagel thinks ID fully deserves the scientific credibility that it seeks.

Having laid the groundwork, Nagel then moves to the second, more practical point of his discussion: the implications his views have for public education. To set this up, he returns to his epistemological issue – whether one starts with the assumption that god is a possibility or not – and reasons that both ideas are “assumptions of a religious nature.” (Nagel 200) This is because either one admits god is a possibility, thereby rendering ID a valid scientific view, or one denies that god is a possibility, rendering ID invalid. From this, he extrapolates that to *not* teach ID is promoting the view that god does not exist, and this would be as problematic to promote a religious viewpoint.⁸ (Ibid.)

Finally, Nagel offers some practical advice. He recognizes how difficult it would be to discuss ID and its foundational premise that requires the existence of an intervening god, and even acknowledges that the Establishment Clause may require silence “on the subject of the relation between evolutionary theory and religious belief[.]” (Nagel 204) Regardless, he suggests

⁸ He also suggests that, given this environment, teaching ID may be almost unavoidable:

If reasons to doubt the adequacy of evolutionary theory can be legitimately admitted to the curriculum, it is hard to see why they cannot legitimately be described as reasons in support of design, for those who believe in God, and reasons to believe that some as yet undiscovered, purely naturalistic theory must account for the evidence, for those who do not. That, after all, is the real epistemological situation.” (Nagel 2008, 203)

that teachers employ “a frank discussion of the relation of evolutionary theory to religion in some part of the high school curriculum. If biology teachers would be too burdened by this task, room should be found for it elsewhere.” (Ibid.) He concludes that “both intellectually and constitutionally the line does not have to be drawn at this point, and that a noncommittal discussion of some of the issues would be preferable.” (Nagel 205)

B. Response to Nagel

As a preliminary observation, it is apparent that Nagel’s arguments are heavily influenced by his longstanding mistrust of the scientific establishment. He sees it as exclusionary and self-reinforcing, with the effect of promoting unfairness and being intolerant of other views that might threaten the agreed-upon establishment view. But how accurate is this characterization?

Not very. The notion that all science is premised upon and dedicated to a staunchly reductionist explanation of the world is, at the very least, an exaggeration, if not simply inaccurate. (Leiter and Weisberg) More and more researchers have begun to doubt the viability of such a narrow reductionist approach, especially in light of the fact that an increasing number of scientific discoveries seem to disregard the known laws of physics. (The obvious example being quantum mechanics, but even neuroscience postulates phenomena that are not explainable in terms of biology.)⁹ (Ibid.) Nagel’s characterization of the scientific establishment thus seems

⁹ In a similar fashion to the way Nagel exaggeratedly characterizes the scientific establishment, some conservative commentators sympathetic to Nagel have exaggerated the negative reaction to *Mind and Cosmos*, referring to it collectively as a “Darwinist mob.” However, according to science writer John Farrell (who is sympathetic with Nagel’s cynicism of materialism), an unquestioning acceptance of reductive materialism is simply not the accepted view, and the criticisms of Nagel are hardly reactionary but are generally substantive. (Farrell)

to be something of a straw man. Regardless, while his general antipathy towards science may give some context for his views, it can be set aside to address his substantive claims about ID.

Nagel's seminal argument is his epistemological one, and although it offers a number of points, it is circular. Restated simply, the argument goes like this: Either we must believe that a god is a possibility, or that it is not – and this is an important question because the answer to this affects whether we accept ID as a possibility. But come to think of it, we really have no choice except to believe that god *is* a possibility, because it is impossible to prove that god does not exist. So consequently, we have to accept ID as a possibility. And because ID is a possibility, it can be supported or undercut by scientific evidence, which ultimately means ID is a scientific theory. What this boils down to is that ID is a scientific theory because god is a possibility.

This argument fails on many levels. To require the contemplation of a supernatural agent as a preliminary matter before engaging in further scientific analysis simply avoids the question and dramatically changes (or eliminates altogether) the rules of the game. It is no different from preliminarily considering whether one believes that natural laws are inviolable or that they are possibly subject to revision – and because one must believe that they are subject to revision (as all scientific theories, by definition, are) then one must necessarily accept the possibility that all of science could be wrong, and as a consequence, anything whatsoever is possible. This is certainly a difficult way to approach a scientific endeavor; science is based upon natural laws, and starting with the god hypothesis as a preliminary matter as Nagel does simply eviscerates this foundation and renders *anything* a valid scientific theory.

It is beyond dispute that science cannot conclusively disprove the existence of a supernatural agent – or Bertrand Russell's celestial teapot, garden faeries, or invisible reincarnations of Elvis. However, an idea that cannot be disproven does not automatically

become a scientific theory, which must provide a testable, repeatable, observable, and falsifiable explanation about the natural world. (Kitzmiller 735) This is precisely what Nagel does by claiming that ID is scientific because we must accept that god is a possibility. That “possibility” is merely a different way of saying that the idea cannot be disproven.¹⁰ In this way, Nagel does not just change the rules of the game for scientific inquiry, but takes away the ball entirely and then claims victory from a 0-0 tie.

Many supporters of religious worldviews do actually reject the idea that religious precepts are capable of being scientifically verified or disproven, claiming that they are by definition supernatural and lie completely outside the realm of science. Needless to say, this argument relinquishes any claim that a religious idea can constitute a scientific theory. Nagel, however, seems to employ a similar approach in that he sets up a framework in which his claim is essentially outside of science (the god hypothesis) and unverifiable, yet he still claims it deserves to be treated as science.

Beyond this, the basis of Nagel’s argument also touches upon the way ID was itself intelligently designed. ID was carefully constructed to be the lowest possible common denominator among all creationist worldviews. It postulates only the most limited aspect of divine creation – *i.e.*, that there was, at some unspecified point in time, some unspecified designer, who worked in some unspecified way, to make some unspecified change. This was designed to attract the widest possible base of support (from conservative fundamentalists to causal deists) and most importantly, to immunize it from attack from the scientific community. Rather than claim we must accept that it is a possibility humans were created pursuant to a specific biblical narrative, the only “possibility” ID asks us to accept is that life resulted from the

¹⁰ Nagel also uses this flawed reasoning to suggest that ID is more credible than biblical creationism because ID is not undercut by the empirical evidence.

intentional act of some kind of supernatural agent. Indeed, such a possibility seems much more palatable (and much more possible), and this is the possibility that Nagel accepts. Despite its minimalist appeal, however, it remains an unscientific and entirely hollow notion.

This hollowness is evident in looking at what ID claims for its justification. Although it is promoted as a theory with extensive evidential support, the evidence offered to support ID is not evidence that supports ID at all, but merely evidence that is critical of evolution. This is an obvious attempt to comport with the dicta in *Edwards* about the appropriateness of presenting scientific evidence against evolution, but the problem lies in repackaging criticisms of one theory as its own separate theory. It hardly bears mentioning that affirmative claims need affirmative support; evidence against one proposition does not become affirmative evidence for another one.¹¹

Moreover, in Nagel's criticisms of Darwinism (which are largely taken from standard ID talking points), he seems to be willfully ignorant of the underlying scientific rationales behind evolution by natural selection. Although not raised directly in the arguments discussed in "Public Education and Intelligent Design" Nagel's more substantive underlying critiques of evolution are only superficial.¹² In fact, despite the strength of his convictions, he candidly (and perhaps

¹¹ This is also why Nagel's earlier argument about the purported contradiction (that the scientific establishment unfairly views evidence in favor of ID as unscientific while it views evidence against ID as scientific) is a mischaracterization. It improperly conflates evidence against evolution with evidence for ID. This type of negative argument is like claiming that the fact that gaps exist in our understanding of the universe is evidence that affirmatively supports the scientific theory that we live on a flat Earth supported on the back of a giant turtle. There is no scientific evidence in favor of ID – it is an unverifiable proposition that is beyond science.

¹² Even the subtitle of Nagel's recent book ("Why the Materialist Neo-Darwinian Conception of Nature is Almost Certainly False") was criticized as being misleading because Nagel's arguments were not supported with empirical evidence but with idiosyncratic views and non-technical popular science writing. (Leiter and Weisberg)

It is worth noting that fellow atheist philosopher Jerry Fodor has also joined the scientific

revealingly) acknowledges that his core belief – which is that the more we discover about life and genetics, the more difficult it is to believe – is “just the opinion of a layman who reads widely in the literature that explains contemporary science to the nonspecialist.”¹³ (Ibid.)

Finally, his practical suggestions regarding how to proceed should be addressed, although there is not a great deal to say – because Nagel does not have a great deal to say either. Despite opening “Public Education and Intelligent Design” by noting his aim was to address the constitutional issue, he ultimately fails to do so, except for a passing reference that “it would be a shame” if the Establishment Clause prohibited the discussion of how religious belief relates to evolution. (Nagel 204) His aim therefore seems to have become providing practical, rather than legal advice. Nonetheless, his suggestions – to hold a “noncommittal discussion” or a “frank discussion of the relation of evolutionary theory to religion in some part of the high school curriculum” – are far from practical. (Nagel 204-205) It is difficult to even imagine what he means by this. In *Mind and Cosmos*, he made clear that his intent was to raise questions and not provide answers,¹⁴ and that may be exactly what he is doing here, however unsatisfying and

fray when he published *What Darwin Got Wrong* with Massimo Piattelli-Palmarini, a book highly critical of Darwinism. (Fodor and Piattelli-Palmarini) Like Nagel, his views were largely criticized as superficial misstatements of the science they faulted. The title of one such review summed up the prevailing criticism: “If You Don’t Understand Evolutionary Biology, Don’t Write a Book About It!” (Prothero)

¹³ Nagel actually embraces the lay-ness of his opinion:

I would like to defend the untutored reaction of incredulity to the reductionist neo-Darwinian account of the origin and evolution of life. (Nagel 6)

He seems to be taking very seriously Richard Dawkins’ playful characterization of ID as the “argument from personal incredulity.” (Forrest 12)

¹⁴ Specifically, he stated, “My aim is not so much to argue against reductionism as to investigate the consequences of rejecting it – to present the problem rather than to propose a solution.” (Nagel 15)

unhelpful it may be. Despite his undisputedly impressive credentials and large body of respected philosophical work, his views on ID are unable to add anything substantive to the debate, and do not represent a sound approach for public science education.

Works Cited

Balanced Treatment for Creation-Science and Evolution-Science Act. 590 Vol. Arkansas, 1981. Print.

Initiated Act no. 1. Ark. Acts 1929. 1 Vol. , 1929. Print.

"The Wedge document." Web. May 7, 2013 <<http://www.antievolution.org/features/wedge.pdf>>.

Butler, John. *AN ACT Prohibiting the Teaching of the Evolution Theory in all the Universities, Normals and all Other Public Schools of Tennessee, which are Supported in Whole Or in Part by the Public School Funds of the State, and to Provide Penalties for the Violations Thereof.* Tran. General Assembly. House Bill ed. 185 Vol. Tennessee, 1925. Print.

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

Epperson v. Arkansas, 393 U.S. 97 (1968).

Farrell, John. "The Darwinist 'Mob' that Wasn't." *Forbes* March 21, 2013 Print.

Fodor, Jerry, A., and Massimo Piatelli-Palmarini. *What Darwin Got Wrong.* New York: Farrar, Straus and Giroux, 2010. Print.

Forrest, Barbara. *Creation's Trojan Horse: The Wedge of Intelligent Design.* Oxford, UK: Oxford University Press, 2004. Print.

Johnson, Phillip E. *Darwin on Trial.* 1st ed. Washington, D.C.: Regnery Gateway, 1991. Print.

Kitzmiller v. Dover Area Sch. Dist., 400 F. Supp.2d 707 (2005).

Larson, Edward J. "The Scopes Trial and the Evolving Concept of Freedom." *Virginia Law Review* 85.3 (1999): 503-29. Print.

Lemon v. Kurtzman, 403 U.S. 602 (1971).

Leiter, Brian, and Michael Weisberg. "Do You Only have a Brain? on Thomas Nagel." *The Nation* October 22, 2012 Print.

- McLean v. Arkansas*, 529 F. Supp. 1255 (E.D. Ark. 1982).
- Moore, Randy. "Creationism in the United States V. the McLean Decision Destroys the Credibility of "Creation Science"." *The American Biology Teacher* 61.2 (1999): 92-101. Print.
- Nagel, Thomas. *Mind and Cosmos: Why the Materialist Neo-Darwin Conception of Nature is almost Certainly False*. New York: Oxford University Press, 2012. Print.
- . "Public Education and Intelligent Design." *Philosophy & Public Affairs* 36.2 (2008): 187-205. Print.
- . "What is it like to be a Bat?" *The Philosophical Review* 83.4 (1974): 435-50. Print.
- Pennock, Robert T. "Creationism and Intelligent Design." *Annual Review of Genomics and Human Genetics* 4 (2003): 143-63. Print.
- Plantinga, Alvin. "Is Belief in God Properly Basic?" *Noûs* 15.1 (1981): 41-51. Print.
- Prothero, Donald R. "If You Don't Understand Evolutionary Biology, Don't Write a Book about it!" *Skeptic* 16.1 (2010): 65. Print.
- Ruse, Michael. "Philosophers Rip Darwin." *The Chronicle Review* March 7, 2010a. Print.
- . *Science and Spirituality: Making Room for Faith in the Age of Science*. Cambridge: Cambridge University Press, 2010b. Print.
- Santa Fe Independent Sch. Dist. v. Doe*, 530 U.S. 290 (2000).
- Scopes v. State*, 289 S.W. 363 (Tenn. 1927).
- Slack, Gordy. *The Battle Over the Meaning of Everything: Evolution, Intelligent Design, and a School Board in Dover, PA*. San Francisco: Jossey-Bass, 2007. Print.
- Smith, Galbreath, Bradley. *AN ACT to Repeal Section 498 - 1922, Tennessee Code Annotated, Prohibiting the Teaching of Evolution*. Tran. General Assembly. House Bill ed. 48 Vol. Tennessee:, 1967. Print.
- Superfine, Benjamin Michael. "The Evolving Role of the Courts in Educational Policy: The Tension between Judicial, Scientific, and Democratic Decision Making in *Kitzmiller v. Dover*." *American Educational Research Journal* 46.4 (2009): 898-923. Print.
- Thomas, R. Murray. *God in the Classroom: Religion and America's Public Schools*. Westport, CT: Praeger, 2007. Print.
- Young, Matt, and Taner Edis. *Why Intelligent Design Fails: A Scientific Critique of the New Creationism*. New Brunswick, NJ: Rutgers University Press, 2004. Print.