

NAGEL ON PUBLIC EDUCATION AND INTELLIGENT DESIGN

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ABSTRACT: In a recent article, Thomas Nagel argues against the court's decision to strike down the Dover school district's requirement that biology teachers in Dover public schools inform their students about Intelligent Design. Nagel contends that this ruling relies on questionable demarcation between science and nonscience and consequently misapplies the Establishment Clause of the constitution. Instead, he argues in favor of making room for an open discussion of these issues rather than an outright prohibition against Intelligent Design. We contend that Nagel's arguments do not succeed. First, we argue that Nagel's case trades on an ambiguity regarding the content of non-theological views and fails to engage adequately some of the problems of ID. Then we raise concerns about Nagel's conclusion; specifically, we will point to three incongruities between Nagel's argument and his conclusion, and then we will raise a more general worry about the likely impact of Nagel's view.

In a provocative new essay titled "Public Education and Intelligent Design," Thomas Nagel argues against Judge John E. Jones's ruling in *Kitzmiller v. Dover Area School District*. In *Dover*, the court struck down the Dover school district's requirement that biology teachers in Dover's public schools inform students about Intelligent Design (ID). Nagel argues that because the *Dover* decision relies upon a spurious criterion of demarcation between science and nonscience, it misapplies the Establishment Clause of the Constitution. Hence Nagel concludes that "a non-committal discussion of some of the issues would be preferable" (2008, 205) to Jones's ruling that it is "unconstitutional to teach ID as an alternative to evolution in a public school science classroom" (2005, 765).

We contend that Nagel's arguments do not succeed. We begin by reviewing Nagel's argument against the decision. In Section II, we argue that Nagel's case trades on an ambiguity regarding the content of non-theological views and fails to engage adequately some of the problems of ID. Then, in Section III, we raise concerns about Nagel's conclusion; specifically, we will point to three incongruities between Nagel's argument and his conclusion, and then we will raise a more general worry about the likely impact of Nagel's view.

I. NAGEL'S DILEMMA

In 2005, the Dover Area School District introduced the requirement that a statement be read to biology students before the theory of evolution was discussed. The statement, which was prepared by the school board, asserts that the theory of evolution "is not a fact," and that there are "[g]aps in the theory." Further, the statement includes the sentence, "Intelligent design is an explanation of the origin of life that differs from Darwin's view." It encourages students to consult the textbook *Of Pandas and People* and then discuss the issue further individually and with their parents.¹

In his ruling, Judge Jones declared that "the religious nature of ID would be readily apparent to an objective observer, adult or child" (2005, 718), and identified three distinct grounds on which ID fails to be science:

We find that ID fails on three different levels, any one of which is sufficient to determine that ID is not a science. They are: (1) ID violates the centuries-old rules of science by invoking and permitting supernatural causation; (2) the argument of irreducible complexity, central to ID, employs the same flawed and illogical contrived dualism that doomed creation science in the 1980's; and (3) ID's negative attacks on evolution have been refuted by the scientific community.² (2005, 735)

Jones reasoned that since ID is not science, the board's real purpose in introducing the requirement was to promote religion in the classroom. He thus concluded that the requirement violates the Establishment Clause (2005, 707).

Nagel rejects Jones's first and third claims, arguing that they occasion the following dilemma:

Either [the critic of ID] admits that the intervention of . . . a designer is possible or he does not. If he does not, he must explain why that belief is more scientific than the belief that a designer is possible. If on the other hand he believes that a designer is possible, then he can argue that the evidence is overwhelmingly against such a designer, but he cannot say that someone who offers evidence on the other side is doing something of a fundamentally different kind. (2008, 195)

In other words, Nagel contends that opponents of ID must argue either that (1) ID is not a science because an intervening designer is impossible, or (2) ID is science, but completely undermined by the evidence.

Nagel finds the first horn unpromising. The rejection of supernatural design as a possible explanation of life is itself either an empirical or non-empirical thesis. It is safe to say that the thesis that a supernatural designer is *impossible* is not warranted by the empirical evidence. Yet if the thesis is held without empirical justification, then there is no reason to take it to be a *scientific* claim, rather than a “basic, ungrounded assumption about how the world works” (2008, 194).

Nagel is correct to characterize this basic assumption as “a kind of naturalism” (2008, 194). There are of course many kinds of naturalism in currency; the kind of naturalism that is claimed to underlie evolutionary theory is sometimes called *methodological naturalism* (Greenawalt 2005, 95). Yet there are many different views about what methodological naturalism is, and we do not intend to get bogged down in this debate. For our purposes, it will suffice to say that the kind of naturalism driving the claim that a supernatural designer is impossible is *exclusive naturalism*, since it proceeds on “the unspoken assumption that all [supernatural] propositions are false—there are no ghosts, no ESP, and there is no god” (2008, 193).

Hence Nagel’s challenge to those taking the first horn of the dilemma above: In what way is exclusive naturalism a *scientific* commitment? Given that exclusive naturalism is not a thesis for which empirical evidence could be gathered, the commitment must itself be nonscientific. Since it is a “general worldview that does not rest on empirical grounds or any other kind of rational grounds” (2008, 202), it is not only nonscientific, but positively *religious*:

[Belief in exclusive naturalism] is not a scientific belief but a belief about a religious question: it amounts to the assumption that there is no god, or if there is, he certainly does not intervene in the natural world order to guide the world in certain directions. (2008, 198)

If those who take the first horn of Nagel’s dilemma are, as Nagel alleges, ipso facto committed to exclusive naturalism, then it follows that a religious view—namely, atheism—is being promoted in biology classrooms when evolution is taught. Furthermore, it is promoted in a context in which no competing thesis is permitted a hearing, or even a mention; according to Nagel, when ID is barred and evolution permitted, science education advances atheism “by suggesting that the nonexistence of God [is] a serious possibility” (2008, 204).

So the first horn of the dilemma itself involves a religious thesis and thus is self-undermining as a basis upon which to prohibit the teaching of ID. Thus the ID opponent must grasp the second horn of the dilemma and argue that although a supernatural designer is possible, the evidence is overwhelmingly, indeed, *conclusively* against it.

This puts the ID opponents in a difficult position. For they now admit that whether ID is scientific is a matter of looking at the evidence, and there is good reason to think that the evidence against a supernatural designer is *not* conclusive. To make this point, Nagel turns to Michael Behe’s argument that random mutation is not sufficient to explain the rate or direction of variation necessary for natural selection to have yielded some of its most successful outcomes (Behe 2007, 165).

Nagel notes: “This seems on the face of it a scientific claim, about what the evidence suggests, and one that is not self-evidently absurd” (2008, 192). Nagel admits that the inference to designers may be hasty and ultimately wrong, but, “even if one merely regards the randomness of variation as an open question, it seems to call for the consideration of the alternatives” (2008, 192). If a designer is not ruled out a priori, then it is a legitimate scientific question as to whether the evidence points to one. And given that those working in ID present their case from empirical evidence, Nagel argues that “whatever the merits . . . [it] is clearly a scientific disagreement, not a disagreement between science and something else” (2008, 197).

Nagel’s dilemma, then, purports to show that evolution and ID are “symmetrical positions,” in that “either both conclusions are rendered nonscientific by the influence of their nonscientific assumptions or are both scientific in spite of their assumptions” (2008, 197). Either way, the exclusion of ID from the science classroom on the basis of its alleged nonscientific status marks an inequitable treatment of the situation, since, by parity of reasoning, the exclusivist naturalism presupposed by evolutionary biology deserves the same treatment. So Nagel concludes, “Either both of them are science or neither of them is” (2008, 201–202). If neither is scientific, then teaching one while prohibiting the other has the effect of promoting a religious view. In the case of teaching evolution without ID, we “contravene the requirement of religious neutrality” because evolution depends “on a view, atheism or theistic noninterventionism, that falls clearly in the domain of religious belief” (2008, 201).

Nagel insists that a more tolerant attitude is required both in the scientific responses to ID and in the classroom. He calls for a “noncommittal discussion of these issues” (2008, 205), claiming this to be preferable to the prohibition called for by *Dover*.

II. NONTHEOLOGICAL AND ATHEOLOGICAL VIEWS

Are views that make no reference to gods therefore atheistic? Are they religious in the sense required for Nagel’s dilemma? Nagel holds that theories which systematically exclude reference to supernatural entities are ipso facto committed to some theological claim, such as that there is no god or that god does not influence events in the natural world. However, in light of the common and intuitive distinction between the *denial* and the *non-assertion* of a claim, this seems facile.

Consider: when one’s car does not start, one does not need to make reference to gremlins or disembodied spirits in order to explain the phenomenon, since one may instead point to the functioning of ignition switches, the charge of the battery, the amount of gasoline in the tank, and so on. When one makes the observation that reference to supernatural entities is not necessary in order to explain the phenomenon, one is not thereby taking a stand on the existence or efficacy of those entities. Rather, one passes those entities over in silence. One does not need to pronounce on the existence of gremlins to be an effective car mechanic; one can devise a successful explanation of the car’s failure to start while remaining *indifferent* to

the existence of gremlins. Gremlins may exist, but the issue is superfluous to the explanatory task of the mechanic.

We contend that the naturalism that underlies evolutionary theory and the corresponding rejection of ID is not *atheistic* but *functionally nontheistic*. We will call this naturalism *scientific* naturalism, in contrast to the exclusive naturalism that Nagel identifies. Scientific naturalism is *nontheistic* rather than *atheistic* because it does not require the denial of the existence of gods and other supernatural beings; rather it is committed to the claim that the phenomena under consideration—namely, biological life—is explicable without reference to such entities.³ Scientific naturalism is *functionally* nontheistic because it makes no pronouncements about possible explanations of life in some sense beyond the biological. In other words, scientific naturalism is a *functional* nontheism in that it is a view concerning the explanatory task of the biological sciences; specifically, it is the view according to which reference to non-natural entities is not necessary in order to explain the biological phenomena. Accordingly, the scientific naturalist holds the methodological commitment that reference to non-natural beings should be eschewed in biological explanation for as long as possible.⁴

Hence scientific naturalism is not inconsistent with the belief that god exists or even that reference to god must be introduced in a complete explanation of life. For example, a scientific naturalist can adopt a divine command theory of moral obligation, or hold that some extra-biological dimension of life—value, beauty, rationality, dignity, moral standing, what have you—requires reference to a god.⁵ It should be noted here that on Nagel's view, all evolutionary theorists who believe in God but reject ID as a science are involved in an obvious self-contradiction. This condemns a good many people who are otherwise highly competent and thoughtful to a deep confusion; Nagel's view is for this reason implausible.⁶

Once the confusion between the atheism of exclusive naturalism and the functional nontheism of scientific naturalism is cleared away, it is evident that the naturalism underlying evolutionary theory is not religious in the way that Nagel's dilemma requires. More importantly, we see that scientific naturalists can escape Nagel's dilemma: scientific naturalism does not pronounce on the possibility of an intervening designer; according to the scientific naturalist, such intervention may be possible or not, but is in any case *irrelevant* since the explanatory task of the biological sciences can proceed without taking any view on the matter.

In response, the ID proponent will claim that the view that biological life can be explained without reference to a god is *itself* a religious view. But it is not clear how this could be made plausible, especially if Nagel is correct to characterize the ID theorist as someone who agrees with the evolution proponent on the matter of *what the evidence is*.⁷ Hence we can ask: On what grounds does the evolutionist hold that reference to a god is unnecessary for purposes of biological explanation? And the answer is clear: there is an expansive and far-reaching body of data that is explained without such reference. The ID theorist will then follow Behe in pointing to gaps and other respects in which evolutionary theory is not complete. But

that there are gaps in the theory of evolution does not prove that some additional explanatory device is needed, especially because we have a long record of the gaps being filled as new data accumulates. In this way, the scientific naturalist has strong inductive evidence that the theory of evolution is not in need of a supernatural supplement. And this strong inductive evidence is an appropriate and fully *scientific* basis for scientific naturalism.

Therefore it seems that Nagel's dilemma fails. One can reject ID as non-science without appealing to a non-scientific, or tacitly religious, standard. Moreover, since evolution presupposes scientific naturalism rather than exclusive naturalism, teaching evolution need not violate the kind of neutrality required by the Establishment Clause.

ID theorists will contend that their view is nontheistic as well; they will claim that ID likewise takes no stand on the existence of a *god*. The view only requires an inference to *some* intervening designer. They will claim further that the gaps in evolutionary theory *call for* countenancing such an entity. To reject ID solely on the grounds that the required supplement is a non-natural designer is to reinstate Nagel's dilemma: the refusal to countenance non-natural intervention is driven by the religious dogma of naturalism.

To be sure, ID's scientific credentials are on display in its critical moments, namely, when it is trying to debunk natural selection and random mutation as adequate explanations of the complexity of biological life. As Nagel rightly notes, Michael Behe does make empirical claims when he is in the critical mode. But we must ask what the evidence for ID looks like beyond the criticisms of the standing neo-Darwinian alternatives. If ID were simply the claim that the standing evolutionary model of explanation is incomplete and in need of supplement, then it would be a genuinely *scientific claim*, but not much of a *scientific theory*. In order for it to be a rival theory to evolution, ID must advance its own positive explanation of the phenomena. And, indeed, it does; as its name suggests, ID asserts that *intelligence* designed the world (or managed events in order to create life, or regulated the rate or distinctness of mutations, and so on). This is where the wheels fall off.

ID can offer no positive account of the nature of God's design. Nagel notes this, but he objects:

[That] does not imply that there cannot be scientific evidence for or against the intervention of such a non-law-governed cause in the natural order. The fact that there could be no scientific theory of the internal operation of the divine mind is consistent with its being in large part a scientific question whether divine intervention provides a more likely explanation of the empirical data than an explanation in terms of physical law alone. (2008, 189–190)

What is not clear, though, is how divine intervention provides an *explanation* of the biological phenomena if we cannot in principle say anything whatsoever about the nature of the designer. There is a distinction between the designer and the design. So there is a difference between the question of *whether* there is a designer and

the question of *what* is the design. But from a scientific point of view, there are no grounds for considering the former unless we can say something about the latter. Without being able to assert something about what the designer's plan is and what results we should expect it to yield, we cannot hold ID up to empirical scrutiny. In other words, if ID is to count as a legitimate scientific hypothesis, it must be able to provide testable predictions about how species development occurred. If the designer's design is in principle unknowable, however, then ID lacks the content necessary to provide such predictions. Contrary to Nagel then, it is not "a scientific question whether divine intervention provides a more likely explanation of the empirical data" (2008, 190) than evolution if we cannot measure ID against the empirical data.

We do not know how design works, what the designer's intentions are, or how (or on the basis of what) the designer selects some traits over others. Nagel is quick to concede this, but analogizes the situation to that of Darwin's similar ignorance of the mechanisms of evolution. Darwin knew that some traits were heritable and that there was variation within populations, but he couldn't explain how that was so. If Darwin's view is scientific, despite Darwin's vagueness about the mechanisms of evolution, so must ID's vagueness about designers and designs:

The problem cannot be just that the idea of a designer is too vague, and that nothing is being said about how he works. When Darwin proposed the theory of natural selection, neither he nor anyone else had any idea of how heredity worked, or what could cause a mutation that was observable in the phenotype and was heritable. (2008, 189)

Darwin's proposal was, then, "no less vague than the hypothesis that the mutations available for selection are influenced by a designer" (2008, 189).

Take the usual ID examples of purportedly *irreducibly complex* biological phenomena: clotting blood, working flagella, and the eye. When they are working according to their design, things go well for entities with them. So it is inferred that this is evidence for a designer—one that designs organisms so that things go well for them. But now turn to the appendix in humans and the panda's thumb. *No designer worth his salt*, one would think, would design a worthless and potentially dangerous appendix or such an inefficient thumb (Gould 1980 and Raddick 2005). If the issue of a designer were symmetric with regards to the evidence, then the design flaws should count *against* the existence of a competent or effective designer (Sober 2007, 4). But ID theorists can always turn to mystery: we do not know what *greater design* of which appendixes and pandas' thumbs are pursuant (Nelson 1996). As a consequence of the darkness of the *greater design* response to the *designer worth his salt* objection, there is in principle no empirical evidence that can count *against* the designer's existence, but there is plenty that purportedly counts *for* it.

The problem then is not, as Nagel asserts, "[that] only the falsehood, and not the truth, of ID can count as a scientific claim" (2008, 189), but rather the other way around. Scientific naturalism opposes ID not because there is a preponderance of scientific evidence refuting it, but because no evidence in principle could refute it.⁸

This renders the positive thesis of ID ad hoc. It simply asserts that those positive phenomena that are insufficiently explained by evolution must be attributable to divine intervention. But what role could this assertion play if there are no cases of design (even cases of incompetent design) that could count against a designer? It does not play an explanatory role, since there are no designs (competent or incompetent) that are ruled out. If this is the case, then there are no predictions that ID can proffer about further data regarding evolutionary heritage. Rather, it simply postulates divine intervention after the fact. As such, it is essentially an expression of the fundamental commitment that those phenomena that cannot be explained by humans must be attributable to a divine source. But this is clearly a religious commitment. It not only serves no scientific purpose, but its expression blatantly violates the Establishment Clause were it required to be included in a high school curriculum.

Methodologically, then, the postulation of a designer is vacuous, even if true. The scientific naturalist can readily concede the possibility of God's existence and divine intervention, yet still deny that ID is a science. Once this is made clear, it is apparent that the burden rests with the ID proponent to show why ID is relevant to the explanatory task of biology, since the scientific naturalist is not forced to pronounce either way on the existence of God or his efficacy. ID, however, cannot meet this burden because it can only provide empirical evidence in favor of its critical thesis and not in favor of its positive thesis.

III. NAGEL'S CONCLUSION

In light of the arguments above, we conclude that Nagel's argument proceeds from a false dilemma; consequently, he has not made a case for rejecting *Dover*. We turn now to concerns regarding Nagel's conclusion that space should be made *somewhere* in the curriculum—not necessarily in biology class (2008, 204)—for a “noncommittal discussion” (2008, 205) of the debates surrounding evolution and ID. In particular, we will raise three respects in which Nagel's conclusion is puzzling and then turn to a more general concern.

First it should be noted that Nagel's conclusion is a good deal more modest than his argument, if successful, would warrant. To see this, suppose that Nagel's dilemma could be salvaged; that is, suppose that Nagel could indeed establish that “either both of them are science or neither of them is” (2008, 201–202). Why then should anyone settle for merely a “noncommittal discussion” of the issues? Why not insist that ID *must* be included in the *Biology* curriculum whenever evolution is? Why not insist on equal time for the two views? Why not leave it up to the individual school districts to decide? Alternatively, why not argue that both ID and evolution should be banned from the Biology curriculum? Nagel's argument, were it to succeed, seems to entail that either both or neither *must* be taught in Biology.

Nagel attempts to avoid this result by introducing the distinction between *bad* science and *nonscience* (2008, 198). His argument runs that although ID is not *nonscience*, it is *bad science*, and thus need not be taught in Biology any more

than the Ptolemaic system need be taught in Astronomy. But it is not clear that this distinction has any traction in the current case, for it is not clear that the good/bad science distinction is any more tractable than the science/nonscience distinction. Surely the ID theorists *deny* that their view is bad science; indeed, their view is that *evolution* is bad science. If Nagel is correct that ID is not nonscience then there is no reason for the ID proponents to eschew the more ambitious conclusion: ID *must* be taught, it must be taught in Biology class, and it may be taught to the exclusion of evolution. In short, the modesty of Nagel's conclusion cannot be sustained if his arguments succeed.

Consider further that Nagelian arguments could be employed *mutatis mutandis* to other academic disciplines. Take Physics. Surely the Newtonian mechanics taught in high school physics classes presupposes the truth of certain metaphysical propositions, such as that material objects exist over time. Physics therefore proceeds on the nonscientific assumptions that (1) material things exist, and (2) material things exist and causally interact over time. The falsity of Berkeleyan idealism and Malbranchean occasionalism is therefore presupposed by high school physics. Hence a Nagelian dilemma: either the falsity of idealism and occasionalism is itself an empirically demonstrable thesis or it is not. If it is not, then Newtonian mechanics is simply a disguised theology; if it is, then room must be made for consideration of the evidence for and against temporally persisting material things. And we're off to the races.

Lastly, we note that the prepared statement prohibited by *Dover* invites students to discuss "the Origins of Life" with their families. One is left to wonder what the capitalizations are meant to signal. But in any case, given his arguments, Nagel should, like Judge Jones, *oppose* such a statement as overtly religious. Recall that the fulcrum of Nagel's argument is that if evolution is scientific then so is ID. If ID is, as Nagel alleges, a *scientific* account of biological life, why should students be instructed to discuss the matter with their *parents*, rather than, say, a biologist? The invitation to discuss the matter with one's parents who may not have any special training or expertise in any area of science is an unspoken concession that the questions that evolutionary theory attempts to answer are ultimately *not* scientific questions at all, but rather questions of the sort best left to individuals and their families—questions of conscience, tradition, and spirituality. Otherwise, students would have been encouraged to ask further questions of biologists or other scientists, too. Accordingly, the statement that lies at the heart of the *Dover* decision is at odds with Nagel's own view of the matter.

The more general problem is that Nagel's arguments provide support for equal-time policies and possibly even more radical ones. While Nagel's stated conclusion is, in the end, modest and perhaps even unobjectionable—few would deny that it would be a good thing to make room somewhere in the high school curriculum for discussion of this controversy—his arguments against *Dover* will likely be *taken* to warrant much stronger conclusions than Nagel intends.⁹ That is, despite the modesty of Nagel's conclusion, many will draw more ambitious results from Nagel's

arguments: evolution is just a religion, no different from other religious views of life, with no claim to any special status, and so on. Nagel thus lends credence to policy proposals that are even more disturbing than those the *Dover* decision was intended to protect against.¹⁰

ENDNOTES

1. See Nagel 2008, 187n1 for the full text of the statement.
2. Judge Jones's claim that "ID violates the centuries-old rules of science by invoking and permitting supernatural causation" is historically wrong, but on the right track. There were many "catastrophists," like William Buckland, who invoked supernatural causation to explain cataclysms occasioning species change.
3. We are conceding both Jones's and Nagel's characterization of ID as requiring supernatural causation. This may be contentious; ID does not entail that the designer is supernatural, only that it is intelligent.
4. It is important to note that in the *Dover* decision Jones never mentions the naturalistic attitude as one that is *exclusive of religious views*.
5. See Goodman 2008 for an example of this kind of view.
6. Given our categories, theist opponents of ID might accept God's existence but deny his causal efficacy in the world. Functional non-theism is compatible with theism, provided that one is a theistic noninterventionist.
7. On Nagel's view, this is what crucially distinguishes ID from Creationism. The latter relies upon a "massive distortion of the evidence" (2008, 196).
8. An ID defender may proceed with the rejoinder that these conflicts are spurs for the further development of the positive theory—some auxiliary hypotheses may need to be revised (perhaps that greater design will be easily detectable) or that some data may be discounted (it is incomplete with regard to all the consequences). But note how the commitment to ID is now held on the basis of a theological commitment instead of empirical evidence—we revise the auxiliary hypotheses for the purposes of maintaining the core commitment to ID. From an empirical perspective, this is ad hoc, but only from a unique theological commitment would it be reasonable.
9. One needs only to peruse the ID-friendly blogs to see how ID proponents have received Jerry Fodor's recent essay in the *London Review of Books* (2007) criticizing evolutionary psychology. Frequently Fodor is taken to be providing a full-blooded endorsement of ID, despite Fodor's frequent and unequivocal statements to the contrary. The *Discovery Institute's* blog, *Evolution News & Views* has already reported on Nagel's essay, calling it a "significant and substantial opening, at America's highest intellectual level," for discussion of ID. The report does not bother to mention that Nagel argues that ID is *bad* or *dead* science (http://www.evolutionnews.org/2008/09/prominent_atheist_professor_of.html, accessed September 22, 2008).
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