INTELLIGENT DESIGN, THOMAS AQUINAS, AND THE UBIQUITY OF FINAL CAUSES*

BY FRANCIS J. BECKWITH

In this paper I distinguish between Intelligent Design (ID) and Thomistic Design (TD) as well as offer an example of how atheist critics of final and formal causes in nature implicitly rely on those causes.

I. WHAT IS INTELLIGENT DESIGN?

Although "Creationism" and "Intelligent Design" are mistakenly thought by some to be identical, this mistake rests on two indisputable facts: (1) some ID advocates run in the same circles as some Creationists, and (2) some ID criticisms to Darwinian evolution resemble, and are in some cases identical to, Creationist criticisms of Darwinian evolution. But that is a weak argument, for we can marshal just as bad a case against Darwinians who deny that their view supports atheism: (1) many politically passionate Darwinians run in the same circles as some atheists, (2) most Darwinian critiques of Creationism and ID are practically indistinguishable from atheist criticisms of Creationism and ID, and (3) most defenses of atheism maintain that Darwinian evolution is a defeater to theism. So, it seems that "guilt by association" is a game that each side can play, though smart people should know better.

Here is why one should *not* think of Creationism and ID as identical. First, the cases offered for ID are much more like the argumentation one finds in philosophy or natural theology than they are like the Biblicism on which Creationism relies. For the ID advocate, Darwinian evolution claims to be an exhaustive account of the development of life on Earth. And because the Darwinian account is entirely a naturalist (and materialist) account requiring no mind behind it, as most of its supporters contend, the burden of the ID advocate is to show *both* that Darwinism is an incomplete account of the development of life *and* that there is design in nature that requires a mind (or intelligence) to account for it. Because Creationists believe that God created the universe—and thus the universe is designed—it takes little imagination to see why Creationists and ID advocates would run in the same circles and find some of the same arguments congenial to their point of view. Although there are ID advocates who accept a literalist biblical account of origins (e.g., Paul Nelson), ID *as a point of view* has no necessary connection to any biblical account. For, as I note below, the ID advocate offers a case that depends exclusively on the plausibility of arguments whose premises consist of empirical, conceptual, mathematical, and/or philosophical claims.

Moreover, ID critics also embrace some design arguments embraced by ID advocates! For example, two strong critics of ID, Francis Collins and Ken Miller, both Christians, defend the plausibility of design arguments that support some form of theism. Miller maintains that the alignment of the cosmic constants soon after the Big Bang points toward an extra-natural mind as the Intelligent Cause of the universe. Collins agrees, but also offers an argument for the existence of God from the existence of the moral law, not unlike C. S. Lewis' argument in *Mere Christianity.* The sorts of cosmic "fine-tuning" arguments presented by Collins and Miller are also defended by thinkers associated with The Discovery Institute (DI), the Seattle think-tank that is in the forefront in supporting ID research.

For these reasons, there is understandable confusion on what precisely constitutes ID. In my previous works I defined ID so broadly that it would include the arguments of thinkers like Miller and Collins who, though critical of ID in the life sciences, seem not to be troubled by the detection of design in cosmology. Here is how I defined ID in September 2005:

Intelligent Design (or ID) is not one theory. It is a short-hand name for a cluster of arguments that offer a variety of cases that attempt to show that intelligent agency rather than unguided matter better accounts for apparently natural phenomena or the universe as a whole. Some of these arguments challenge aspects of neo-Darwinism. Others make a case for a universe designed at its outset, and thus do not challenge any theory of biological evolution.

But even ID advocates who criticize neo-Darwinism are technically not offering an alternative to evolution, if one means by evolution any account of biological change over time that claims that this change results from a species' power to accommodate itself to varying environments by adapting, surviving, and passing on these changes to its descendants. This is not inconsistent with a universe that has earmarks and evidence of intelligent design that rational minds may detect.[1]

When I wrote this definition I was trying to explain to a wider audience that the best way to understand ID is to see it as a counter to the hegemony of philosophical materialism that some thinkers believe is entailed by Darwinian evolution as well as a particular understanding of science. It is a view of science that maintains that the hard sciences are the best or only way of acquiring exhaustive knowledge of the natural world and its genesis, and that these sciences, in order to function properly, require methodological naturalism. According to ID advocate, William A. Dembski, *methodological naturalism* is "the view that science must be restricted solely to undirected natural processes."[2] Thus, it seemed to me that any view that challenged philosophical materialism, either by critiquing its methodological assumptions and/or its ontological commitments, could rightfully be included under the big tent of Intelligent Design. I am now convinced that my definition—though an accurate description of what would constitute a central belief to a broad coalition of anti-naturalists—does not truly capture the core arguments of what has come to be known as the Intelligent Design Movement (IDM).

Take, for example, Miller and Collins, who defend cosmological fine-tuning (CFT) arguments but who are at the same time critics of ID. Former Discovery Institute vice president, Mark Ryland, points out that although ID advocates will, at times, incorporate CFT arguments into their works, CFT supporters, like Miller and Collins, do not reciprocate. Ryland explains the reason for this:

> CFT does not imply any intervention by God in the evolution of the cosmos. The laws and constants at issue are preordained, built into the very fabric of reality. IDT [Intelligent Design Theory], on the other hand, implies intervention, divine or otherwise, by arguing that an "intelligent cause" must have done something superadded to an "unguided natural process."[3]

Consequently, one ought not to confuse ID with other views that claim that the natural universe is designed (such as CFT) and/or includes both formal and final causes. It seems to me, then, that Ryland is correct when he defines ID as a view that "purports to be a scientific theory about the development of life on earth… [It] defines itself in part by arguing against the adequacy of standard neo-Darwinian evolutionary theory and in part by making allegedly scientific arguments in favor of *design* in biology."[4] Its three most important theorists are Michael Behe, Stephen Meyer, and William Dembski. Thus, when critics and defenders write of IDM, they are virtually always referring to the works of these and other thinkers associated with the Discovery Institute.

Intelligent Design, Thomas Aquinas, and the Ubiquity of Final Causes
BY FRANCIS J. BECKWITH

Nevertheless, both ID advocates and other believers in design (e.g., CFT supporters) hold at least one belief in common, namely, that the human mind has the capacity and power to detect and know that the universe and/or parts of it are designed and thus the product of mind rather than non-mind. ID advocates, however, typically argue for the application of certain design-detecting criteria to empirical observations *in* the natural world. Hence, Dembski defines ID as "the study of patters *in* nature that are best explained as the result of intelligence."[5] So, for example, Behe argues that because things that are *irreducibly complex* are the product of mind (e.g., a mousetrap), therefore some aspects of the natural world (e.g., the bacterial flagellum) are the product of mind since they too are irreducibly complex. Dembski offers a similar criterion based on a concept he calls *specified complexity*. He argues that because things that exhibit specified complexity are the product of mind (e.g., a lock's combination), therefore, aspects of the natural world (e.g., the bacterial flagellum) are products of mind since they too exhibit specified complexity.

Consequently, for both Behe and Dembski, design is a property had by an entity that exhibits a certain type and level of complexity. Both maintain that there is a threshold at which a living organism's irreducible complexity (in the case of Behe) or specified complexity (in the case of Dembski) becomes incapable of being accounted for by non-agent causes, such as natural selection, random mutation, and/or scientific laws. For both Behe and Dembski it is the complex arrangement of an entity's parts and the end of that arrangement that requires an agent cause. However, short of achieving that threshold of irreducible or specified complexity, no design inference is warranted.

II. THOMISM AND INTELLIGENT DESIGN

Now I want to discuss another way of thinking about design in nature. It is a view defended by Thomists, followers of the philosopher and theologian St. Thomas Aquinas (1225-1274). And it is a view that is both contrary to the dominant account of ID as well as those views of nature held by ID's materialist critics (though not all of its non-materialist critics). Calling this view Thomistic Design (TD), it maintains that God brought the universe into being *ex nihilo* and that this universe consists of a vast variety of inanimate and animate entities that are subject to certain scientific laws. Among the animate entities are human beings, who possess an active power for self-movement that allows them to engage in free acts initiated and/or accompanied by thought and reflection. The universe is not God's "artifact," since he did not change that which already existed, as Aristotle (384-322 B.C.) believed that his deity, "the Unmoved Mover," did to prime matter. Rather, according to St. Thomas, the universe is radically contingent upon God for its genesis as well as its continued existence, including the development and order within it. This is why, in his famous Five Ways (or arguments) to show God's existence, St. Thomas includes as a fifth way an argument from the universe's design as a *whole*, appealing to those scientific laws that make motion possible. St. Thomas writes:

> The fifth way is taken from the governance of the world. We see that things which lack intelligence, such as natural bodies, act for an end, and this is evident from their acting always, or nearly always, in the same way, so as to obtain the best result. Hence it is plain that not fortuitously, but designedly, do they achieve their end. Now whatever lacks intelligence cannot move towards an end, unless it be directed by some being endowed with knowledge and intelligence; as the arrow is shot to its mark by the archer. Therefore some intelligent being exists by whom all natural things are directed to their end; and this being we call God.[6]

For St. Thomas, the design or purpose of nature refers to the interrelationship of "all things" in the universe, including scientific laws and all inanimate and animate things and their powers, which have their own natures that direct them to certain ends. And God, who brought the universe into being *ex nihilo* sustains them all. St. Thomas, though a believer in design, was no ID advocate.

As I have already noted, the ID advocate tries to detect instances of design in nature by eliminating chance and necessity (or scientific law). This implies that one has no warrant to say that the latter two are the result of an intelligence that brought into being a whole universe whose parts, including its laws and those events that are apparently random, seem to work in concert to achieve a variety of ends. But this is precisely the position advanced by the Thomist. In response, someone could say that an ID advocate who accepts a CFT argument does in fact have warrant to believe that chance and necessity are the result of intelligence as well, since both function as parts of the Creator's plan for the universe's fine-tuning. But then, what happens to irreducible and specified complexity as criteria by which to eliminate non-agent causes of apparently designed effects *in* nature? Perhaps this is why some ID advocates are reluctant to call their "designer" God, since it would mean that God creates everything *ex nihilo* and then returns now and again to tidy things up a bit when they seem to be going awry.

But, as Brad S. Gregory writes, this puts the ID advocates in the ironic position of sharing a philosophical assumption with the New Atheists:

> Advocates of intelligent design posit that ordinary biological processes of natural selection and genetic mutation can account for much but not everything in the evolution of species, the remainder requiring recourse to God's intervention. Insofar as proponents of intelligent design posit normally autonomous natural processes usually devoid of God's influence, they share important assumptions with the New Atheists.[7]

Gregory points out the fallacy in this understanding of God's relationship to nature: "[P]erhaps in the past Darwinism wasn't explanatorily powerful enough to drive God out, but recent, further scientific findings no longer leave room for God." The result is a strange parallel of ferocious posturing between ID advocates and the New Atheists: "The intelligent design proponents scramble to find remaining places for supernatural intervention; the New Atheists claim there are none left. Both assume that God, conceived in spatial and quasi-spatial terms, needs 'room' to be God—which is precisely what traditional Christian theology says God does not need."[8]

Thomistic Design (TD) also has something to say about the detection of purpose in the universe. For the Thomist, the human intellect has the power to "see" formal and final causes in both artifacts and in nature. Following Aristotle, St. Thomas maintained that there are four causes of change in the universe: efficient, material, formal, and final. In order to explain them, consider this example. Imagine a marble statute of Jesus made for the chapel of a large cathedral in order to facilitate worship. The marble is the material cause. Its maker, the artist, is the efficient cause. The reason for why it was made—to assist the chapel attendees in worship—is the final cause. And the formal cause is the pattern of the statute in the artist's mind that he imposes on the unformed marble. Consider now an organ system of a living organism, a human being's lungs. The organic material of which that system consists is its material cause. Its efficient cause is the biological parents of the human being in which the lungs reside. Its formal cause is the nature of the being in which the lungs function, for they are fully integrated parts that work in concert with the body's other parts to help sustain the whole being for its own flourishing (which depends on a "pattern,"

the sort of being it is). And the lungs' final cause is respiration. Their end is to exchange oxygen for the sake of the person who owns them.

For St. Thomas (again, following Aristotle), the formal and final causes of artifacts, like desks, computers, and iPods are imposed from outside the collection of parts by an intelligent agent. On the other hand, the formal and final causes of natural objects are intrinsic to those objects. This is why, as Aristotle points out, if you own a bed made out of wood and then plant a piece of the bed in the ground, "it would not be a bed that would come up, but wood."[9] This "shows that the arrangement in accordance with the rules of the art is merely an incidental attribute, whereas the real nature is the other, which, further, persists continuously through the process of making." In other words, the form and finality of the bed is imposed from without (an "arrangement in accordance with the rules of art") while the form and finality of the wood is intrinsic to the nature of the tree from which it was taken ("the real nature" that "persists continuously through the process of making").[10]

Consequently, for example, a medical scientist may provide an exhaustive account of the mechanics of respiration without any reference to final and formal causes. But it does not follow that final and formal causes play no part in our rational deliberations about the world. In fact, as I show below, some critics of ID simply cannot resist helping themselves to those causes in their assessments of ID and its advocates, even though many of these critics believe that Darwinian evolution has forever banished these causes from our study of nature. And there is a reason for this: formal and final causes are so much the woof and warp of our lives that we, like the water-skeptic fish submerged in H_2O, are blissfully unaware of the role they play in our ontological and normative pronouncements. As Stephen M. Barr, a physicist at the University of Delaware (and a critic of ID), puts it:

> Contrary to what is often claimed, even by some scientists, modern science has not eliminated final and formal causes. It uses them all the time, even if unaware that it is doing so. For example, a liver and a muscle are made up of the same material constituents—hydrogen, carbon, oxygen, and so on—acting on each other by the same basic forces. It is precisely their *forms*, their organic structures, that differ and enable them to play different roles in the body.

> The same is true in physics. The very same carbon atoms can form a diamond (transparent, hard, and electrically insulating) or a piece of graphite (opaque, soft, and electrically conducting). What explains their different properties is the difference in *form*, in intelligible structure. Indeed, as one goes deeper into fundamental physics, one finds that matter itself seems almost to dissolve into the pure forms of advanced mathematics.

> Some people think that the Darwinian mechanism eliminates final causes in biology. It doesn't; the finality comes in but in a different way. Why does natural selection favor this mutation but not that one? Because this one makes the eye see better in some way, which serves the *purpose* of helping the creature find food or mates or avoid predators, which in turn serves the *purpose* of helping the animal to live and reproduce. Why do species that take up residence in caves gradually lose the ability to see? Because seeing serves no *purpose* for them, and so mutations that harm the faculty of sight are not selected against. (Even a Dawkins would not deny purpose in this sense; he would deny only that these

purposes were in the mind of God.) Darwinian explanations can account for very little indeed without bringing intrinsic finality into the explanation.[11]

So, the problem with Darwinism in relation to belief in God is *not* the Darwinian's claim that natural processes, including scientific laws, are sufficient to account for the variety of life forms that now populate the world. After all, for the Thomist, Darwinian mechanisms and algorithms, as well as scientific laws and other natural processes, no more count against the existence and necessity of God (or even final or formal causality) than does the account of my conception by the natural processes of human reproduction count against the claim that God is Creator of the universe. As St. Thomas writes: "[T]he same effect is not attributed to a natural cause and to divine power in such a way that it is partly done by God, and partly by the natural agent; rather, it is wholly done by both, according to a different way, just as the same effect is wholly attributed to the instrument and also wholly to the principal agent."[12] Consequently, the problem "is when scientists presume that the material dimension is all there is, and then extend their scientific presumptions to a metaphysical stance, that is, atheism. Without an acknowledgement of formal and final causes, this is an easy leap to make."[13]

As I have already noted, for Behe and Dembski no design inference about nature is warranted short of achieving that threshold of irreducible or specified complexity. But that means that the person who believes he has good grounds for final and formal causes—while rejecting Behe's and Dembski's criteria— has no warrant for believing that the final and formal causes he claims to "see" in living organisms are real. In other words, Behe and Dembski are implicitly accepting the assumption of the materialists—the opponents of final and formal causes—that God's role in nature may only be exhibited in properly arranged bits of matter so as to signify an agent cause of the arrangement.

In Dembski's narrative of the history of the design argument, he pretty much concedes this. He states that "with the rise of modern science in the seventeenth century, design arguments took a mechanical turn. The mechanical philosophy that was prevalent at the birth of modern science viewed the world as an assemblage of material particles interacting by mechanical forces. Within this view, design was construed as externally imposed on preexisting on inert matter." He goes on to show how this view made possible the natural theology of William Paley (1743-1805), author of the famous Watchmaker Argument. However, writes Dembski, Darwin, with the publication of *Origin of Species*, "delivered the design argument its biggest blow," though that did not spell the end of design arguments. Instead of "finding specific instances of design within the universe," design arguments focused "on determining whether and in what way the universe as a whole was designed." But, fortunately, all was not lost. According to Dembski, "[d]esign theorists see advances in the biological and information sciences as *putting design back in the saddle* and enabling it to out-explain Darwinism, thus making design rather than natural selection current the best explanation of biological complexity."[14] But this means that design in nature is more like Aristotle's bed than the tree from which the bed was made. In other words, ID advocates assume the very mechanistic philosophy of nature that drove both Paley and his atheist critics.

If you are unsure why this is an unacceptable philosophy of nature for the Christian theist to entertain, consider this. Suppose that in the next few years biologists discover another force in nature, similar to natural selection, that has the power to produce in living organisms organs and systems that appear to be irreducibly or specifically complex. According to the ID advocate, the rational person would have to abandon the idea that these organs and systems are intelligently designed, since his criterion would no longer be a reliable detector of "design." Consequently, the rational person would have to

Intelligent Design, Thomas Aquinas, and the Ubiquity of Final Causes
BY FRANCIS J. BECKWITH

conclude that these organs and systems are probably the product of necessity and/or chance (to employ Dembski's categories). TD, on the other hand, is not threatened by such discoveries, since the TD advocate actually expects to find such laws in nature, since she believes that God created *ex nihilo* a universe teeming with ends or purposes that depend on laws and principles that cry out for explanation. By rejecting the mechanistic assumptions of both the Darwinian materialists and the ID advocates, TD does not have the burden of waiting with bated breath for the latest scientific argument or discovery in order to remain confident that the universe, or at least a small sliver of it, is designed.

III. Richard Dawkins Has a Point [15]

Interestingly enough, atheist critics of ID, such as Richard Dawkins, seem to offer their criticisms while unwittingly helping themselves to an understanding of the human person and mind that presupposes a robust view of the human person's intrinsic purpose that requires final and formal causality. Consider the following example.

In his book *The God Delusion*, Dawkins laments the career path of Harvard-trained paleontologist Kurt Wise.[16] At the time Dawkins published his book, Wise was an associate professor of science at Bryan College, a small Protestant Evangelical college in Dayton, Tennessee. Dawkins writes that at one time Wise was a promising young scholar who had earned an undergraduate degree in geology from the University of Chicago as well as advanced degrees in geology and paleontology from Harvard University, where he studied under the highly acclaimed paleontologist Stephen Jay Gould.[17] Wise, surprisingly, is a Young Earth creationist, which means that he embraces a literal interpretation of the first chapters of Genesis, and maintains that the Earth is less than 10,000 years old. It is not a position I hold, and for that reason I am sympathetic to Dawkins' bewilderment of why Wise has embraced what appears to many Christians as a false choice between one controversial interpretation of Scripture (Young Earth creationism) and abandoning Christianity altogether.

In any event, at one point in his career Wise began to understand that his reading of Scripture was inconsistent with the dominant scientific understanding of the age of the Earth and the cosmos. Instead of abandoning what many of us believe is a false choice, he continued to embrace it and had a crisis of faith. Wise writes:

> Either the Scripture was true and evolution was wrong or evolution was true and I must toss out the Bible . . . . It was there that night that I accepted the Word of God and rejected all that would ever counter it, including evolution. With that, in great sorrow, I tossed into the fire all my dreams and hopes in science. [18]

With that decision Wise abandoned the possibility of securing a professorship at a prestigious research university or institute.

Dawkins is disturbed by Wise's theological judgment and its consequence on his obvious promise as a scholar, researcher, and teacher. Writes Dawkins:

> I find that terribly sad . . . . [T]he Kurt Wise story is just plain pathetic—pathetic and contemptible. The wound, to his career and his life's happiness, was self-inflicted, so unnecessary, so easy to escape . . . . I am hostile to religion because of what it did to Kurt

Wise. And if it did that to a Harvard educated geologist, just think what it can do to others less gifted and less well armed.[19]

It goes without saying that some religious believers, including many devout Christians, may be just as troubled as Dawkins. Thus, one does not have to be an atheist to suggest that Professor Wise's faith may have been better served by embracing an alternative understanding of theology and science that did not require that he reject either the deliverances of modern science or the authority of Scripture.

However, given Dawkins' atheism, there is something odd about his lament, for it seems to entail that Dawkins accepts something about the nature of human beings that his atheism seems to reject. Dawkins harshly criticizes Wise for embracing a religious belief that results in Wise not treating himself and his talents, intelligence, and abilities in a way appropriate for their full flourishing. That is, given the opportunity to hone and nurture certain gifts—e.g., intellectual skill—no one, including Wise, should waste them as a result of accepting a false belief. The person who violates, or helps violate, this norm, according to Dawkins, should be condemned and we should all bemoan this tragic moral neglect on the part of our fellow(s). But the issuing of that judgment on Wise by Dawkins makes sense only in light of Wise's particular talents and the *sort of being* Wise is by nature, a being that Dawkins seems to believe possesses certain intrinsic capacities and purposes that if prematurely disrupted results in an injustice. So, the human being who wastes his talents is one who does not respect his natural gifts or the basic capacities whose maturation and proper employment make possible the flourishing of many goods. That is, the notion of proper function, coupled with the observation that certain perfections grounded in basic capacities have been impermissibly obstructed from maturing, is assumed in the very judgment Dawkins makes about Wise and the way by which Wise should treat himself. That is, Dawkins' judgment of Wise depends on Dawkins knowing a human being's final and formal causes.

But Dawkins, in fact, does not actually believe that living beings, including human beings, have final and formal causes. Dawkins denies that human beings have intrinsic purposes or are designed so that one may conclude that violating one's proper function amounts to a violation of one's duty to oneself. Dawkins has maintained for decades that the natural world only *appears to be* designed: "Darwin and his successors have shown how living creatures, with their spectacular statistical improbability and appearance of design, have evolved by slow, gradual degrees from simple beginnings. We can now safely say that the illusion of design in living creatures is just that—an illusion."[20] He writes elsewhere: "[t]he universe we observe has precisely the properties we should expect if there is, at bottom, no design, no purpose, no evil, and no good, nothing but blind pitiless indifference."[21] Thus, if we are to take Dawkins seriously, his view of design means that his lament for Wise is misguided! For Dawkins is lamenting what only *appears* to be Wise's dereliction of his duty to nurture and employ his gifts in ways that result in his happiness and an acquisition of knowledge that contributes to his own good as well as the common good. Because there are no formal or final causes, and thus no intrinsic purposes, and thus no natural duties that we are obligated to obey, the intuitions that inform Dawkins' judgment of Wise are illusory since they depend on the design he explicitly rejects. But that is precisely one of the grounds by which Dawkins suggests that theists are irrational and ought to abandon their belief in God.[22] So, if the theist is irrational for believing in God based on what turns out to be pseudo-design, Dawkins is irrational in his judgment of Wise and other creationists he targets for reprimand and correction. For Dawkins' judgment rests on a premise that he has uncompromisingly maintained throughout his career that only *appears to be* true.

Intelligent Design, Thomas Aquinas, and the Ubiquity of Final Causes
By Francis J. Beckwith

Dawkins once claimed that Darwin had "made it possible to be an intellectually fulfilled atheist."[23] But given his embracing of pseudo-design as the ontological truth of a human being's final and formal causes, that there are no intrinsic ends or purposes in nature including the intellectual powers of human beings, why does Dawkins suppose that it is good for one to be "intellectually fulfilled"?

If, of course, the mind, including its intellectual powers, has a proper function intrinsic to its nature, then one would be within one's intellectual rights in issuing a condemnation to anyone who violated that proper function. But this would also mean that a person has a responsibility to care for her mental life, and it would be a vice inconsistent with one's good to intentionally neglect such care. Thus, for Dawkins to assess the morality of his or another's acts, including acts that lead or do not lead to intellectual fulfillment, he must not only know how the parts of a human being function and for what end (for example, that the brain helps facilitate the acquisition of knowledge for the good of the whole person), he must also account for cases in which proper function is employed for the wrong end. So without final and formal causality, Dawkins has no rational basis by which to declare himself intellectually fulfilled or Dr. Wise intellectually impoverished. Thus, we may ask rhetorically a question once asked straightforwardly by the great Thomist philosopher, Etienne Gilson: "[f]inal causes have disappeared from science but have they disappeared from the mind of scientists?"[24]

Notes

1. http://www.legalaffairs.org/webexclusive/debateclub_id0905.msp
2. William A. Dembski, *Intelligent Design: The Bridge Between Science and Theology* (Downers Grove, IL: InterVarsity Press,1999), 119.
3. Mark Ryland, "Intelligent Design Theory," in *New Catholic Encyclopedia Supplement,* ed. Robert L. Fastiggi, Farmington Hills, MI: Gale Publishing, 2009), I: 473
4. Ibid.
5. William A. Dembski, "Opening Statement," in *Intelligent Design: William A. Dembski and Michael Ruse in Dialogue*, Robert B. Stewart (Minneapolis: Fortress Press, 2007): 20.
6. Thomas Aquinas, *Summa Theologica*, I, q. 2, art. 3, available at http://www.newadvent.org/summa/1002.htm
7. Brad S. Gregory, "Science v. Religion?: The Insights and Oversights of the `New Atheists,'" *Logos: A Journal of Catholic Thought and Culture* 12.4 (Fall 2009): 41.
8. Ibid.
9. Aristotle, *Physics* (trans. R. P. Hardie and R. K. Gaye), bk. II, *available at* http://classics.mit.edu/Aristotle/ physics.2.ii.html.
10. Ibid.
11. Stephen Barr, Letter to the Editor, "Defining Darwinisms," *First Things* 179 (2008): 3-4.
12. *Summa contra Gentiles* III, 70.8 (trans. Vernon J. Bourke) *available at* http://www.op-stjoseph.org/Students/study/ thomas/ ContraGentiles3a.htm.
13. Sr. Damien Marie Savino, FSE, "Atheistic Science: The Only Option?," *Logos: A Journal of Catholic Thought and Culture* 12.4 (2009): 56
14. William A. Dembski, *The Design Revolution* (Downers Grove, IL: InterVarsity Press, 2004), 66-69, 228.
15. Portions of this section are adapted from portions of Francis J. Beckwith, "The Courts, Natural Rights, and Religious Claims as Knowledge," *Santa Clara Law Review* (2009): 429-445
16. Richard Dawkins, *The God Delusion* (New York: Houghton Mifflin Harcourt, 2006), 284–286.
17. Ibid., 284.
18. As quoted in Ibid., 285.
19. Ibid., 285–86.
20. Ibid., 158.
21. Richard Dawkins, *River Out of Eden: A Darwinian View of Life* (New York: Basic Books, 1995), 113

22. Dawkins, *The God Delusion*, chapter 3.

23. Richard Dawkins, *The Blind Watchmaker* (New York: W.W. Norton, 1986), 6.

24. Etienne Gilson, *From Aristotle to Darwin & Back Again: A Journey in Final Causality, Species and Evolution*, trans. John Lyon (San Francisco: Ignatius Press, 2009; original French edition published in 1971), 148.