

MAKING THE TASK OF THEODICY IMPOSSIBLE? Intelligent Design and the Problem of Evil

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1 The Task of Theodicy

Intelligent design—the idea that a designing intelligence plays a substantive and empirically significant role in the natural world—no longer sits easily in our intellectual environment. Science rejects it for invoking an unnecessary teleology. Philosophy rejects it for committing an argument from ignorance. And theology rejects it for, as Edward Oakes contends, making the task of theodicy impossible.¹ I want in this lecture to address all these concerns but especially the last. For many thinkers, particularly religious believers, intelligent design exacerbates the problem of natural evil—intelligent design makes natural evil not an accident of natural history or a price exacted by evolution or a necessary consequence of creation's freedom but an outcome fully intended by a sadistic designer. Or, as Robert Russell put it to me on the PBS program *Uncommon Knowledge*, “The notion of intelligent design is incoherent because it's either a natural cause, in which case you don't go anywhere, or it's a divine cause, in which case you don't have the biblical God.”² The biblical God, presumably, would not design the rabies virus, the bubonic plague bacterium, or the mosquito.

I want in this lecture to address Russell's concern, sketching why intelligent design does not too brutally violate the current intellectual environment and can indeed be squared with a specifically Christian theodicy. My foil throughout the ensuing discussion will be Edward

Oakes. Oakes, a Catholic theologian, is a trenchant critic of intelligent design. According to Oakes, intelligent design attempts to foist a crude interventionist conception of divine action on Christian theology and to boot call it science. Intelligent design advocates, according to him, “claim that both the universe and biological systems have been intelligently designed (by God presumably, although some authors are annoyingly coy about saying so).”³³ “Advocates of Intelligent Design share the metaphysical presuppositions of their [Darwinian] opponents.”³⁴ “One should not seek to refute the (admittedly improper) extrapolations of evolutionary theory in the work of such Darwinian bulldogs as Richard Dawkins and Daniel Dennett by using the same tiresome and jejune positivism they use, for then the argument descends to fossil dating or how flagella got attached to bacteria and the like. This is the mistake of the advocates of Intelligent Design.”³⁵ Intelligent design advocates start out by urging “the blatantly obvious truth, which no one has ever denied, that contraptions require assembly. But then ... comes the whopper: and *therefore* God is the Artificer of the universal artifact.”³⁶

“If God was supposed to have intervened so directly 3.5 billion years ago to construct a well-designed cell, and if He is needed to design new *Baupläne* at irregular intervals, why does He not intervene when a fire breaks out in the cockpit of an airplane flying over the Atlantic? Or when stray radiation from the sun affects the sequence of a DNA molecule, later causing birth defects?”³⁷ To identify the Designer as the Logos of God in John’s Gospel “force[s] us to claim that the Logos of God *directly* attached the flagellum to the first bacterium, that the Second Person of the Trinity *explicitly* toggled a complex molecule to bring about the first act of self-replication, and that the Deity *immediately* altered the architecture of one species, say a tiger, to lead to another conspicuously different species. For each and every one of these hypotheses (when they are not downright preposterous) the scientific evidence is exactly zero, the logic fallacious, and the theological implications grotesque.”³⁸ Intelligent design makes “the task of theodicy impossible.”³⁹

“Paley did far more damage to nineteenth-century Christianity than Friedrich Nietzsche ever managed to do to twentieth-century religion. Design is the founding axiom of Deist religion; and as Darwin’s own life attests, nothing more rapidly congeals into atheism (or agnosticism) than Deism.”⁴⁰ Intelligent Design is “either Creation ‘Science’ on the installment plan, or (more likely) Deism put under a stroboscope. If one

must conceive of the universe as an artifact (and how odd that materialist Darwinians and Intelligent Designers both hold that life is a mechanical artifact), then the idea of a Clockmaker God who winds it all up and then departs the scene has a certain plausibility.”¹¹ The God of Intelligent Design is “one who, with disconcerting inconsistency, intervenes *every now and again*. As I say, Deism under a stroboscope.”¹² “The design argument will only end up becoming a breeding ground for atheism, a fetid terrarium for a whole new brood of Richard Dawkinses (not a pleasant thought, that).”¹³

These quotes by Edward Oakes, culled from his writings in *First Things* and *Commentary*, sum up and state forcefully the most common theological objections to intelligent design. If his characterization of intelligent design is correct, then intelligent design is theologically hopeless and does indeed render the task of theodicy impossible. But Oakes’s characterization of intelligent design is deeply flawed, indeed so much so that his concerns about intelligent design undermining the task of theodicy in the end prove groundless.

According to Oakes, the task of a Christian theodicy is to “show that an omnipotent and benevolent God can coexist with evil in His finite creation.”¹⁴ The key to resolving the theodicy problem for Oakes is Augustine’s insight that God would not allow evil to exist unless God could bring good out of evil.¹⁵ Nevertheless, to speak of God bringing good out of evil could just be a fancy way of dressing up a consequentialism in which the means justifies the end. To avoid this charge, Oakes requires that the world be viewed “both as a totality and under the aegis of eschatology.”¹⁶ Accordingly, God-bringing-good-out-of-evil must be judged not on the basis of isolated happenings but on the basis of the totality of happenings as they relate to God’s ultimate purposes for the world. All of this is sound Christian theodicy as far as it goes. I’m going to argue that intelligent design, rightly understood, is companionable with such a theodicy.

2 Interventionism

Let’s begin with Oakes’s concern that intelligent design is an interventionist theory. For intelligent design the crucial question is not how organisms emerged (for example, by gradual evolution or sudden special creation) but whether a designing intelligence made a discernible

difference regardless how they emerged. For a designing intelligence to make a discernible difference in the emergence of some organism, however, seems to require that an intelligence intervened at specific times and places to bring about that organism and thus seems to require some form of intervention. This in turn raises the question: How often and at what places and in what manner did a designing intelligence intervene? According to Oakes, intelligent design draws an unreasonable distinction between primary and secondary causation; it claims that secondary causation is fine most of the time but then on rare (or perhaps not so rare) occasions a designing intelligence (God) needs to act directly to get over some hump that secondary causes can't quite manage ("deism under the stroboscope," as Oakes puts it).

This criticism is misconceived. The proper question is not how often or at what places or in what manner a designing intelligence intervenes but rather at what points do signs of intelligence first become evident. To understand the difference, imagine a computer program that outputs alphanumeric characters on a computer screen. The program runs for a long time and throughout that time outputs what look like random characters. Then abruptly the output changes and the program outputs sublime poetry. Now, at what point did a designing intelligence intervene in the output of the program? Clearly, this question misses the mark because the program is deterministic and simply outputs whatever the program dictates.

There was no intervention at all that changed the output of the program from random gibberish to sublime poetry. And yet, the point at which the program starts to output sublime poetry is the point at which we realize that the output is designed and not random. Moreover, it is at that point that we realize that the program itself is designed. But when, where, and how was design introduced into the program? Although these are interesting questions, they are ultimately irrelevant to the more fundamental question whether there was design in the program and its output in the first place. Similarly in biology there will be clear times and locations where we can say that design first became evident. But the precise activity of a designing intelligence at those points will require further investigation and may indeed not be answerable. As the computer analogy just given indicates, the place and time at which design first becomes evident need have no connection with the place and time at which design was actually introduced.

Intelligent design is not a theory about the frequency or locality or modality by which a designing intelligence intervenes in the material world. It is not an interventionist theory at all. Indeed, intelligent design is perfectly compatible with all the design in the world coming to expression by the ordinary means of secondary causes over the course of natural history, much as a computer program's output comes to expression simply by running the program (and thus without monkeying with the program's operation). In fact, one way to think of the secondary causes responsible for biological evolution is as intelligently designed programs whose computational environment is the universe and whose operating system is the laws of physics and chemistry. This actually is an old idea, and one that Charles Babbage, the inventor of the digital computer, explored in the 1830s in his *Ninth Bridgewater Treatise* (thus predating Darwin's *Origin of Species* by twenty years).¹⁷

Of course, there are other ways to think about secondary causes that leave room for genuine teleology in nature. Programming is one option, but it implies a highly mechanical or algorithmic view of secondary causation. Augustine, by contrast, thought of design in the world as coming to expression through seeds planted by God at creation.¹⁸ Here we have an organismic rather than algorithmic view of secondary causation. Physical necessity can also be the carrier of teleology through laws of form that channel evolution along certain preset paths. Late nineteenth and early twentieth century orthogenesis is an example. More recently Michael Denton has been exploring laws of form in the context of protein folding.¹⁹ And then there are the more frankly vitalistic options, like Aristotelian entelechy, the Stoic world-soul, and more recently morphogenetic fields (as in the work of Rupert Sheldrake).²⁰ Now all these options, and others as well, are compatible with intelligent design. Intelligent design's only concern is that secondary causes leave room for teleology and that this teleology be empirically detectable.

3 Material Mechanisms

Nevertheless, a design-theoretic view of evolution would be very different from evolution as it is now conceived. Evolution, as currently presented in biology textbooks, operates not just by secondary causes but by material mechanisms. And while material mechanisms are perfectly acceptable secondary causes, secondary causes need not be material

mechanisms. It is a huge and unwarranted assumption to identify the two. And yet many scientists and philosophers make this identification. The reason is easy to see. Material mechanisms allow for a reductive science in which the complex can always be explained in terms of the simple. This is convenient as far as it goes. The problem is that it doesn't go very far, at least not in evolutionary biology.

Lord Kelvin summed up the attraction of material mechanisms thus: "I never satisfy myself until I can make a mechanical model of a thing. If I can make a mechanical model I can understand it. As long as I cannot make a mechanical model all the way through, I cannot understand."²¹ This mechanistic approach to science, which last was appropriate to the physics of the nineteenth century, has become *de rigueur* for many contemporary evolutionary thinkers. Thus Richard Dawkins will write, "The one thing that makes evolution such a neat theory is that it explains how organized complexity can arise out of primeval simplicity."²² To this Daniel Dennett adds that any scientific explanation that moves from simple to complex is "question-begging."²³ Dawkins explicitly equates proper scientific explanation with what he calls "hierarchical reductionism," according to which "a complex entity at any particular level in the hierarchy of organization" must properly be explained "in terms of entities only one level down the hierarchy."²⁴

A mechanism is a well-defined process where each step of the process leads predictably to the next. A mechanism can be deterministic, in which case one step leads with certainty to the next. Or it can be stochastic, in which case one step leads with a given probability to the next. Mechanisms are often embodied in objects but need not be. Hilbert's program for "mechanizing" mathematics attempted to show that all mathematical truths could be proven by mechanically applying logical rules of inference to manageable sets of axioms (manageable sets being those that are "recursive" as defined by mathematical logic). Hilbert's program failed (at the hands of Kurt Gödel), but the point I wish to stress here is that the program's underlying mechanism was a consequence relation on an abstract class of symbol strings, and thus not located in any material object but rather in an abstract computational space.²⁵

The mechanism in Hilbert's program was deterministic. Other mechanisms are stochastic. Preeminent among stochastic mechanisms is, of course, the Darwinian mechanism of natural selection and random variation. The Darwinian mechanism is supposed to make it possible to

get from anywhere in biological configuration space to anywhere else provided one can take small steps. How small? Small enough that they are reasonably probable. But what guarantee is there that a sequence of baby-steps connects any two points in configuration space? There is none.

The problem gets worse. For the Darwinian selection mechanism to connect point A to point B in configuration space, it is not enough that there merely exist a sequence of baby-steps connecting the two. In addition, each baby-step needs in some sense to be “successful.” In biological terms, each step requires an increase in fitness as measured in terms of survival and reproduction. Natural selection, after all, is the motive force behind each baby-step, and selection only selects what is advantageous to the organism. Thus, for the Darwinian mechanism to connect two organisms, there must be a sequence of successful baby-steps connecting the two.

Richard Dawkins compares the emergence of biological complexity through the steady improvement of fitness to climbing a mountain—Mount Improbable, as he calls it.²⁶ He calls it Mount Improbable because if you had to get all the way to the top in one fell swoop (that is, achieve a massive increase in biological complexity all at once), it would be highly improbable. But Mount Improbable does not have to be scaled in one leap. Darwinism purports to show how Mount Improbable can be scaled in small incremental steps. Thus, according to Dawkins, Mount Improbable always has a gradual serpentine path leading to the top that can be traversed in baby-steps. But such a claim requires verification. It might be a fact about nature that Mount Improbable is sheer on all sides and getting to the top from the bottom via baby-steps is effectively impossible. A gap like that would reside in nature herself and not in our knowledge of nature (it would not, in other words, constitute a god-of-the-gaps).

Consequently, it is not enough merely to presuppose that a fitness-increasing sequence of baby-steps connects two biological systems—it must be demonstrated. For instance, it is not enough to point out that some genes for the bacterial flagellum are the same as those for a type III secretory system (a type of pump) and then handwave that one was co-opted from the other.²⁷ Anybody can arrange complex systems in a series. But such series do nothing to establish whether the end evolved in a Darwinian fashion from the beginning unless each step in the series can be specified, the probability of each step can be quantified, the probability at each step turns out to be reasonably large, and each step constitutes an

advantage to the organism (in particular, viability of the whole organism must at all times be preserved). Only then do we have a mechanistic explanation (in Darwinian terms) of how one system arose from another.

Convinced that the Darwinian mechanism must be capable of doing such evolutionary design work, evolutionary biologists rarely ask whether such a sequence of successful baby-steps even exists; much less do they attempt to quantify the probabilities involved. I attempt that in chapter 5 of my book *No Free Lunch*.²⁸ There I lay out techniques for assessing the probabilistic hurdles that the Darwinian mechanism faces in trying to account for complex biological structures like the bacterial flagellum. The probabilities I calculate—and I try to be conservative—are horrendous and render natural selection entirely implausible as a mechanism for generating the flagellum and structures like it.

4 A Gödelian Argument Against Darwinism

According to intelligent design, Darwin's theory fails for essentially the same reason that Hilbert's program failed. Hilbert's program for mechanizing mathematics failed because Gödel was able to demonstrate that logical rules of inference could not connect all mathematical truths back to a reasonable set of starting points (that is, a recursive set of axioms). Likewise Darwin's program for mechanizing biological evolution fails because it can be demonstrated that the Darwinian mechanism lacks the capacity to connect biological organisms exhibiting certain types of complex biological structures (for example, irreducibly complex or complex specified structures) to evolutionary precursors lacking those structures.

Note that to attribute such an incapacity to the Darwinian mechanism isn't to say that it's logically impossible for the Darwinian mechanism to attain such structures. It's logically possible for just about anything to attain anything else via a vastly improbable or fortuitous event. For instance, it's logically possible that with my very limited chess ability I might defeat the reigning world champion, Vladimir Kramnik, in ten straight games. But if I do so, it will be despite my limited chess ability and not because of it. Likewise, if the Darwinian mechanism is the conduit by which a Darwinian pathway leads to an irreducibly complex biochemical system, then it is despite the intrinsic properties or capacities of that mechanism. Thus, in saying that irreducibly complex biochemical

structures are inaccessible to Darwinian pathways, design proponents are saying that the Darwinian mechanism has no intrinsic capacity for generating such structures except as vastly improbable or fortuitous events. Accordingly, to attribute irreducible complexity to a direct Darwinian pathway is like attributing Mount Rushmore to wind and erosion. There's a sheer possibility that wind and erosion could sculpt Mount Rushmore but not a realistic one.

Gödel's demonstration of the failure of Hilbert's program was strictly deductive. Intelligent design's demonstration of the failure of Darwin's program is a combination of empirical and theoretical arguments. In both cases, however, the issue is one of connectivity—can the mechanism in question supply a step-by-step path connecting two otherwise disparate elements (distinct mathematical propositions in the Hilbert-Gödel case, distinct organisms in the Darwinian case). Of course, while Gödel's anti-mechanistic argument for mathematics is entirely uncontroversial, intelligent design's anti-mechanistic argument for evolutionary biology has yet to win the day. I've argued in a number of my writings that the logic underlying this argument is sound.²⁹ Whether it is, however, is not the issue here. Our concern in this lecture is whether intelligent design smuggles in dubious theological assumptions that are inimical to the task of theodicy.

5 Mechanism as Process and Function

According to Edward Oakes, intelligent design smuggles in at least one dubious theological assumption. Thus he charges intelligent design with presupposing the same positivism and mechanistic metaphysics that drives Darwinian naturalism. But the only way to make this charge stick is by arguing that both intelligent design and Darwinian naturalism entail the same mechanistic view of causality. Oakes argues that they do by casting intelligent design as an interventionist theory of divine action in which mechanism rules the day except for the sporadic poke of a divine finger here and there. Although Oakes may be correct that some proponents of intelligent design have interpreted it this way, it hardly follows that intelligent design must be interpreted this way. Intelligent design makes few demands on theology. It is committed to an ontological claim and an epistemological claim. The ontological claim: Material mechanisms are incomplete—they are not coextensive with secondary causes. The

epistemological claim: Design is empirically detectable. Note that intelligent design does not merely assert these claims but attempts to justify them.

But if intelligent design is theologically undemanding and eschews a mechanistic metaphysics, why does it continually emphasize mechanism? Why is it constantly looking to molecular machines and focusing on the mechanical aspects of life? If intelligent design treats living things as machines, then isn't intelligent design effectively committed to a mechanistic metaphysics however much it might want to distance itself from that metaphysics otherwise? Such questions confuse two senses of the term "mechanism." Michael Polanyi noted the confusion back in the 1960s: "Up to this day one speaks of the mechanistic conception of life both to designate an explanation of life in terms of physics and chemistry [what I've been calling "material mechanisms"], and an explanation of living functions as machineries—though the latter excludes the former. The term 'mechanistic' is in fact so well established for referring to these two mutually exclusive conceptions, that I am at a loss to find two different words that will distinguish between them."³⁰ For Polanyi mechanisms, conceived as causal processes operating in nature, could not account for the origin of mechanisms, conceived as "machines or machinelike features of organisms."³¹

In focusing on the machinelike features of organisms, intelligent design is not advocating a mechanistic conception of life. To attribute such a conception of life to intelligent design is to commit a fallacy of composition. Just because a house is made of bricks doesn't mean that the house itself is a brick. Likewise just because certain biological structures can properly be described as machines doesn't mean that an organism that includes those structures is a machine. Intelligent design focuses on the machinelike aspects of life because those aspects are scientifically tractable and precisely the ones that opponents of design purport to explain by material mechanisms. Intelligent design proponents, building on the work of Polanyi, argue that material mechanisms (like the Darwinian mechanism of natural selection and random variation) have no inherent capacity to bring about the machinelike aspects of life. This is for now where much of the debate is focused. I look forward to the day when intelligent design moves beyond the machinelike aspects of life and, as a discipline, starts to focus explicitly on the higher-level design features of living systems such as elegance and beauty.³²

6 Kant's Framing of the Theodicy Problem

I've now addressed Edward Oakes's main criticisms against intelligent design. In particular, I've shown that intelligent design is compatible with the Augustinian theodicy sketched by Oakes, which permits evil because of the good that God ultimately brings out of it. Mere compatibility with an existing theodicy (albeit the one I find most persuasive) is, however, not all that exciting. I therefore want to switch gears and examine next what positive contribution intelligent design makes to the theodicy problem. The positive contribution, I take it, is this: Intelligent design restores to nature the artistic wisdom that Darwin banished from it and that Kant regarded as necessary to any theodicy.

Kant's discussion of theodicy occurs in a hard-to-find essay titled "On the Failure of All Attempted Philosophical Theodicies."³³ Kant wrote this essay in 1791, ten years after the first edition of his *Critique of Pure Reason* and four years after the second edition of that work. His essay on the failure of philosophical theodicies therefore represents the thought of a mature Kant. As he saw it, for a philosophical theodicy to succeed, it must prove one of three things:

Either that what one deems contrary to the purposefulness in the world is not so; or that while it is indeed contrary to purposefulness it must be considered not as a positive fact but as an inevitable consequence of the nature of things; or finally that, while a positive fact, it is not the work of the supreme Creator of things, but of some other responsible being, such as man or superior spirits, good or evil.³⁴

Kant imagines that a defense attorney must plead "God's cause" and that "to win the case, the so-called advocate of God must prove one of [these] three things."³⁵

The operative word here is "prove." Kant requires of a philosophical theodicy that it provide apodeictic certainty. But that seems to be precisely the one thing that no theodicy can provide. The problem is that theodicies by definition attempt to correlate the evil in the world, which is known by experience, with the moral wisdom of God. But, as Kant remarks, "The proof of the moral wisdom of God is completely a priori and cannot at all be based upon experience of what happens in the world."³⁶ After playing the role of defense attorney and trying to plead God's cause in each of the three ways just described, Kant concludes: "The result of the trial before the tribunal of philosophy is that no theodicy proposed so far has kept its

promise; none has managed to justify the moral wisdom at work in the government of the world against the doubts which arise out of our experience of the world.”³⁷

In the current intellectual environment, God is guilty until proven innocent. Hence the failure of philosophical theodicies shows that God, if there is a God, cannot be a good God. And since, as Kant rightly observes, “the concept of God must be the concept of a moral being”³⁸—by which he means a holy, good, and just being³⁹—from the failure of philosophical theodicies it follows that there is no God at all. Given a presumption of guilt, the *modus tollens* here is conclusive. In my view, this anti-theodicy, more than any other, justifies atheism within the current intellectual environment.⁴⁰

Nevertheless, for Kant God was not guilty until proven innocent. For one thing, Kant allowed that some philosophical theodicy might still achieve apodeictic certainty. The title of his essay after all was “On the Failure of All Attempted Philosophical Theodicies.” Kant didn’t think that he had necessarily attempted or exhausted all possible philosophical theodicies. As Kant remarked:

Will it be possible in time to find better grounds of justification so that the supreme wisdom under attack will not be simply absolved on lack of evidence but will be positively vindicated? This question remains undecided, since we cannot demonstrate with certainty that reason is completely powerless when it comes to determining the *relationship between this world, as we know it through experience, and the supreme wisdom*.⁴¹

Yet even without a successful philosophical theodicy to quell the doubts that experience urges against the moral wisdom of God, Kant saw no basis for a successful philosophical anti-theodicy. As he put it, “It is also true, I must add, that, in the light of the limits of our reason, these doubts cannot disprove such moral wisdom either.”⁴² To which he added, “We are capable at least of a negative wisdom. We can understand the necessary limits of our reflections on the subjects which are beyond our reach. This can easily be demonstrated and will put an end *once and for all* to the trial [that is, the trial of God before the tribunal of reason].”⁴³

Even so, the question remains, What are we to make of our doubts that experience urges against the moral wisdom of God? Do we give up on all theodicy and embrace either fideism (if we are religious believers) or atheism (if we are inclined the other way)? Having shown the failure of philosophical theodicies, Kant does not give up on theodicies as such.

Theodicies still have their place. According to Kant, “All theodicy must be an interpretation of nature and must show how God manifests the intentions of his will through it.”⁴⁴ To illustrate this view of theodicy, Kant examines the case of Job. Despite all his trials, Job in the end accepts the moral wisdom of God—that God is holy, good, and just. Why?

Crucial here, according to Kant, was God’s artistic wisdom displayed in nature. Kant writes:

When art shows itself capable of achievements the possibility of which lie beyond all human reason, for instance, when ends and means bring each other out reciprocally, like in organic bodies, this divine art may not without reason be also called wisdom. Nevertheless, to avoid confusion we shall call this kind of wisdom the Creator’s artistic wisdom, to keep it distinct from his moral wisdom. Teleology (physical theology) finds in experience abundant proof of [God’s artistic wisdom].⁴⁵

It’s not widely advertised these days that Kant was quite sympathetic to teleology in nature and even in biology. Kant even admitted the legitimacy of natural (or physical) theology: “We have in fact a concept of an *artistic wisdom* manifested in the arrangement of the world. The objective reality of this knowledge is adequate and our speculative reason can develop a physical theology.”⁴⁶ In fact, Kant’s criticism of the teleological proof for the existence of God was simply that it tried to accomplish too much. In his first critique, Kant wrote: “The utmost, therefore, that the [teleological] argument can prove is an architect of the world who is always very much hampered by the adaptability of the material in which he works, not a creator of the world to whose idea everything is subject.”⁴⁷ The point to appreciate is that Kant found the teleological argument, and in particular its conclusion of an architect or designer, compelling. Moreover, he saw no difficulty assigning to this architect, who for Kant was God, an artistic wisdom based not on a priori principles but on experience of nature, a wisdom remarkably illustrated in the reciprocal adaptation of means to ends in organisms.

7 Restoring Artistic Wisdom to Nature

For Kant any successful theodicy required that nature exhibit God’s artistic wisdom. Kant illustrated the role of such wisdom in theodicy with his analysis of the book of Job. What convinced Job of God’s holiness, goodness, and justice (that is, of God’s moral wisdom) was a reflection on

nature. When God finally appeared to Job, God did not defend himself or try to rationalize Job's sorrows. Instead, God asked Job to consider the wonders of creation. Kant writes:

God honored Job by showing him the wisdom of his creation and its unfathomable nature. He let him see the beautiful side of creation, where man can see in an indubitable light (and understand) the purposes of the Creator and his wise providence. But he also showed the horrible side, by naming the products of his might, among which there are harmful and terrible things. These things by themselves can serve some purpose but in relationship to other beings and especially to man, they are destructive, run against all purposes, and do not seem to agree with the idea of a plan established with wisdom and goodness. Even through these things, God showed to Job an ordering of the whole which manifests a wise Creator, although his ways remain inscrutable for us, already in the physical ordering of things but even more in the connection between this order and the moral one (which is even more unfathomable to our reason). The conclusion is this: Job confessed not that he had spoken sacrilegiously, for he was sure of his good faith, but only that he had spoken unwisely about things that were above his reach and which he did not understand.⁴⁸

Kant offers here a richer understanding and vision of theodicy than either William Paley or Charles Darwin. For Paley, the natural world was a happy place in which organisms frolicked and lived in delicate harmony and balance.⁴⁹ Only such a world could sustain a successful theodicy for Paley. For Darwin, on the other hand, the natural world was a cruel or indifferent place in which organisms took part in, as he put it, "the great battle of life."⁵⁰ Such a world led Darwin to despair of the possibility of any successful theodicy. For Kant the beauty and horror of creation coexist and still allow a successful theodicy (as in the case of Job). Nevertheless, it is a theodicy that depends fundamentally on there being an artistic wisdom manifest in creation, one we cannot fathom entirely but one we cannot discount either. Paley's understanding of God's artistic wisdom in nature was shallow and incomplete. Darwin, by contrast, in propounding his theory, banished artistic wisdom from nature.

From the vantage of Darwinian evolutionary theory, the emergence of biological complexity and diversity is as much to be expected as the emergence of twenty heads in a row among a crowd of a million coin tossers (imagine each person in the crowd tosses a coin and keeps standing so long as he or she tosses heads but must sit down otherwise). The science of coin tossing (probability theory) tells us that out of a million

coin-tossers one person will on average be left standing who has tossed twenty heads in a row. So too the science of Darwinian evolution tells us that the cumulative effect of natural selection and random variation over several billion years is likely to produce the degree of biological complexity and diversity we observe now. Just as the science of coin tossing does not justify attributing to the person who tossed twenty heads in a row any special skill or wisdom at coin tossing, so too the science of Darwinian evolution does not justify attributing to the evolutionary process any special skill or wisdom at generating biological complexity and diversity. In each case the outcome is properly regarded as expected or predictable and not, as Kant put it, an artistic achievement “the possibility of which lie[s] beyond all human reason.”⁵¹

For Kant one such achievement that lay beyond all human reason was the reciprocal adaptation of means to ends in organisms. He referred to this achievement as an instance of “divine art” that “may not without reason be also called wisdom.”⁵² He then identified this wisdom with God’s artistic wisdom: “We shall call this kind of wisdom the Creator’s artistic wisdom.”⁵³ What’s more, for Kant this wisdom was exhibited in nature and provided a sound basis for teleology: “Teleology (physical theology) finds in experience abundant proof of [God’s artistic wisdom].”⁵⁴ Elsewhere in his essay on theodicy Kant calls this wisdom “unfathomable.”⁵⁵

Unfathomable. Beyond all human reason. A source of wonder and awe. Darwin’s theory evacuates biology of all of these. Within Darwinism the reciprocal adaptation of means to ends in organisms (which Kant found so conclusive as signaling God’s artistic wisdom) is eminently fathomable—Darwin’s theory purports to provide a complete accounting. Richard Dawkins even wrote a book to stress this point and palliate the loss of wonder that Darwin’s theory entails. It was titled *Unweaving the Rainbow*. Note the subtitle: *Science, Delusion, and the Appetite for Wonder*.⁵⁶ Whereas for Kant wonder sprung from discerning God’s artistic wisdom in creation, for Dawkins wonder is an appetite that becomes delusory as soon as it seeks fulfillment in God. What makes it delusory? As Francisco Ayala put it, Darwin showed us how organisms could arise “without any need to resort to a Creator or other external agent.”⁵⁷ Ayala hit the nail on the head. A creator God might resort to creating life by means of the Darwinian mechanism, but the Darwinian mechanism need not resort to a creator God to bring about the diversity of life. It follows

that the Darwinian mechanism does not, and indeed cannot, make manifest the artistic wisdom of God in creation. Granted, that wisdom might still be there, but it is not there to be discerned.

Intelligent design, by finding clear signs of intelligence in nature, makes plausible that an artistic wisdom underlies nature. Ayala's remark therefore needs to be contrasted with the following by Thomas Aquinas: "By his natural reason man is able to arrive at some knowledge of God. For seeing that natural things run their course according to a fixed order, and since there cannot be order without a cause of order, men, for the most part, perceive that there is one who orders the things that we see. But who or of what kind this cause of order may be, or whether there be but one, cannot be gathered from this general consideration."⁵⁸ Aquinas here was not doing first philosophy or metaphysics. He was simply noting that our natural reason readily infers some sort of "orderer" or "designer" behind nature. Whereas Darwinism short-circuits this inference, intelligent design restores and clarifies it. Indeed, the various aspects of nature to which God drew Job's attention and which helped convince Job of God's artistic wisdom—and therewith of God's goodness—would continue to convince Job in light of intelligent design. Not so for Darwinism. As with Aquinas's orderer, intelligent design cannot, without drawing on philosophy and theology, specify who or what the designer is. But whatever its ultimate nature, this cause is demonstrably a designer. It may be more than a designer, but it is at least a designer. The unique contribution of intelligent design to current theodicy discussions is restoring artistic wisdom to nature.

Notes

¹Edward T. Oakes, “Edward T. Oakes and His Critics: An Exchange,” *First Things* 112 (April 2001): 11.

²Transcript of program available at <http://www.uncommonknowledge.org/01-02/635.html> (last accessed 26 February 2003).

³Edward T. Oakes, *Commentary* 115(3) (March 2003): 21. Letter in response to David Berlinski’s article “Has Darwin Met His Match?” *Commentary* 114(5) (December 2002): 31-41.

⁴Oakes, “Oakes and His Critics,” 12.

⁵Edward T. Oakes, *First Things* 132 (April 2003): 14. Reply to letter in response to book review by Oakes of Robert Pennock’s book *Intelligent Design Creationism and Its Critics: Philosophical, Theological, and Scientific Perspectives* (Cambridge, Mass.: MIT Press, 2001).

⁶Oakes, “Oakes and His Critics,” 12-13.

⁷*Ibid.*, 12.

⁸*Ibid.*, 8.

⁹*Ibid.*, 11.

¹⁰*Ibid.*, 9.

¹¹*Ibid.*, 11.

¹²*Ibid.*

¹³*Ibid.*

¹⁴*Ibid.*, 12.

¹⁵Oakes will frequently cite the following quote by Aquinas (who in turn is quoting Augustine): “As Augustine says, since God is the highest good, He would not allow any evil to exist in His works unless His omnipotence and goodness were such as to bring good even out of evil. This is part of the infinite goodness of God, that He should allow evil to exist, and out of it produce good.” *Summa Theologiae*, I.2.3.

¹⁶Oakes, “Oakes and His Critics,” 12.

¹⁷Charles Babbage, *The Ninth Bridgewater Treatise* (London: Murray, 1836).

¹⁸Augustine, *The Literal Meaning of Genesis*, 2 vols., J. H. Taylor, transl. (New York: Newman Press, 1982), V:4.9-11, V:23.45, VI:11.19, VI:14.24, X:20.35.

¹⁹M. J. Denton and J. C. Marshall, “The Laws of Form Revisited,” *Nature* 410 (2001): 411 and M. J. Denton, J. C. Marshall, and M. Legge, “The Protein Folds as Platonic Forms: New Support for the Pre-Darwinian Conception of Evolution by Natural Law,” *Journal of Theoretical Biology* 219 (2002): 325-342.

²⁰Rupert Sheldrake, *A New Science of Life: The Hypothesis of Morphic Resonance* (Rochester, Vt.: Park Street Press, 1995).

²¹Lord Kelvin, *Baltimore Lectures* (Baltimore: Publication Agency of Johns Hopkins University, 1904), 270.

²²Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe without Design* (New York: Norton, 1986), 316.

²³Daniel Dennett, *Darwin's Dangerous Idea* (New York: Simon & Schuster, 1995), 153.

²⁴Dawkins, *The Blind Watchmaker*, 13.

²⁵For a summary of Hilbert's program and Gödel's demolition of it, see Roger Penrose, *The Emperor's New Mind: Concerning Computers, Minds, and the Laws of Physics* (Oxford: Oxford University Press, 1989), ch. 4.

²⁶Richard Dawkins, *Climbing Mount Improbable* (New York: Norton, 1996).

²⁷For an example of such handwaving, see Kenneth Miller's article "The Flagellum Unspun: The Collapse of 'Irreducible Complexity'," available online at <http://www.millerandlevine.com/km/evol/design2/article.html>. For my response, see http://www.designinference.com/documents/2003.02.Miller_Response.htm. Both articles last accessed 27 March 2003.

²⁸William A. Dembski, *No Free Lunch: Why Specified Complexity Cannot Be Purchased without Intelligence* (Lanham, Md.: Rowman and Littlefield, 2002).

²⁹See my book *No Free Lunch* as well as my article "The Logical Underpinnings of Intelligent Design," in W. Dembski and M. Ruse, eds., *Debating Design: From Darwin to DNA* (Cambridge: Cambridge University Press, forthcoming 2004).

³⁰Michael Polanyi, "Life Transcending Physics and Chemistry," *Chemical and Engineering News* 45 (August 1967): 65.

³¹*Ibid.*, 55.

³²I fully admit, and regard it as unfortunate, that the aesthetic dimension of intelligent design has till now received short shrift. When I helped organize the *Nature of Nature* conference at Baylor University in the spring of 2000, I attempted to enlist John Updike as the keynote speaker. Design has been a long-standing theme in Updike's writings, with his emphasis being not on functionality but on aesthetics. He declined my offer not for lack of interest in the conference or topic but for not feeling sufficiently expert to address the question of design before an audience of scientists and philosophers. That was too bad because precisely that audience needed to hear Updike's insights into the aesthetics of intelligent design. For details of the *Nature of Nature* conference, go to http://www.designinference.com/documents/2000.04.nature_of_nature.htm (last accessed 26 March 2003).

³³Immanuel Kant, "On the Failure of All Attempted Philosophical Theodicies," M. Despland, transl., originally published 1791, in Michel Despland, *Kant on History and Religion*, 283-297 (Montreal: McGill-Queen's University Press, 1973).

³⁴*Ibid.*, 283.

³⁵*Ibid.*

³⁶Ibid., 284n1.

³⁷Ibid., 290.

³⁸Ibid., 284n1.

³⁹Ibid., 285.

⁴⁰This anti-theodicy is especially popular in Darwinian circles where natural biological evil is widely cited as evidence against God's involvement in the world and thus as evidence for the absence of God from the world altogether. For an entire book devoted to this topic see Cornelius Hunter, *Darwin's God: Evolution and the Problem of Evil* (Grand Rapids, Mich.: Brazos Press, 2001).

⁴¹Kant, "Failure of All Theodicies," 290. Emphasis in original.

⁴²Ibid.

⁴³Ibid.

⁴⁴Ibid., 291.

⁴⁵Ibid., 284n1.

⁴⁶Ibid., 291.

⁴⁷Immanuel Kant, *Critique of Pure Reason*, N. K. Smith, transl. (1787; reprinted New York: St. Martin's, 1929), 522.

⁴⁸Kant, "Failure of All Theodicies," 292-293.

⁴⁹See especially the second to the last chapter in Paley's *Natural Theology* titled "The Goodness of the Deity." William Paley, *Natural Theology; Or Evidences of the Existence and Attributes of the Deity Collected from the Appearances of Nature* (1802; reprinted Boston: Gould and Lincoln, 1852).

⁵⁰Charles Darwin, *On the Origin of Species*, facsimile 1st ed. (1859; reprinted Cambridge, Mass.: Harvard University Press, 1964), 76.

⁵¹Kant, "Failure of All Theodicies," 284n1.

⁵²Ibid.

⁵³Ibid.

⁵⁴Ibid.

⁵⁵Ibid., 292.

⁵⁶Richard Dawkins, *Unweaving the Rainbow: Science, Delusion, and the Appetite for Wonder* (New York: Houghton Mifflin, 1998).

⁵⁷Francisco J. Ayala, "Darwin's Revolution," in *Creative Evolution?!*, eds. J. H. Campbell and J. W. Schopf (Boston: Jones and Bartlett, 1994), 4. The subsection from which this quote is taken is titled "Darwin's Discovery: Design without Designer."

⁵⁸Thomas Aquinas, *Summa Contra Gentiles*, in A. C. Pegis, ed., *Introduction to St. Thomas Aquinas* (New York: Modern Library, 1948), 454-455.