

“Intelligent Design” Theory: Two Viewpoints

DOES “INTELLIGENT DESIGN” HAVE A CHANCE?
AN ESSAY REVIEW

by Howard J. Van Till

The Design Inference: Estimating Chance through Small Probabilities. By WILLIAM A. DEMBSKI. Cambridge: Cambridge Univ. Press, 1998. 260 pages. \$54.95.

A Case against Accident and Self-Organization. By DEAN L. OVERMAN. Lanham, Md.: Rowman and Littlefield, 1997. 264 pages. \$24.95.

Abstract. A number of authors have argued the case that there is empirical evidence that the universe (or particular configurations within it) must be the outcome of *intelligent design*. Recent books by William Dembski and Dean Overman, though different in style and level of argumentation, reach a similar conclusion: the universe, or certain forms within it, cannot be explained without appeal to design as a mode of causation. But exactly what is the operative definition for intelligent design in these works? And how convincing is their case for the necessity of appealing to this type of design in causal explanations?

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An event occurs. How can its occurrence be explained? According to William Dembski, “Whenever explaining an event, we must choose from

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three competing modes of explanation. These are *regularity*, *chance*, and *design*" (p. 36).

At first sight this "trichotomy rule," as Dembski calls it, might seem unrealistically simple. Are there really only three possible modes of explanation for the set of all events? How can this be? The answer is: By definition. The third category in Dembski's list, *design*, is simply defined to be neither regularity nor chance. "To attribute an event to design is to say that it cannot reasonably be referred to either regularity or chance" (p. 36).

Following this strategy, one might just as well say that all objects are colored red, blue, or green, where *green* is defined to be "neither red nor blue." Thus, the design mode of explanation would appear to be none other than the familiar "none of the above" option in the common menu of answers on a multiple-choice quiz. In place of the label *designed*, one could presumably have used a lighthearted neologism like "muffnordled." However, it becomes clear in the course of the book that the *design* label is intended to take on a much more specific operative meaning. The word *design*, like *green*, has a prior meaning that is not easily forgotten.

We need to examine more closely, then, the three causal categories as defined and employed by Dembski. He employs the label *regularity* to designate any high-probability event, any instance of a well-known pattern of events that occur, given comparable antecedent circumstances. To explain an event as a regularity, says Dembski, is to "admit no contingency" (p. 39).

On the other hand, to say that an event is due to *chance* implies, according to Dembski, that the event in question is one of several possible outcomes, given certain antecedent circumstances. Authentic contingency is present, but it is of the sort that can be characterized by calculable probabilities. Dembski's third category, *design*, into which all remaining events are then placed, also admits contingency, but not the sort that could be characterized by quantifiable probabilities.

But why call this third catchall category by the name *design* in place of "none of the above" or "muffnordled"? Because, says Dembski, "In practice, when we eliminate regularity and chance, we typically do end up with an intelligent agent. Thus in practice, to infer design is typically to end up with a 'designer' in the classical sense" (p. 36). As a historical example Dembski offers the case of planetary motion. In Newton's judgment, planetary orbits were inherently unstable and would need occasional adjustments by the direct intervention of God. In Dembski's words, "for Newton the proper mode of explanation for the dynamics of the solar system, though partially appealing to his laws of mechanics, also included an appeal to design, with design here taking the form of supernatural intervention" (p. 39).

As a mode of causal explanation, intelligent agency is not necessarily confined to the design category, however. Dembski notes that some events

that one would ordinarily place in either the regularity or chance category may also have been performed by an intelligent agent (whether animal, human, or divine) who is able to mimic these categories. However, it appears that for all practical purposes most events in the design category are presumed to be best explained as the outcome of some irruptive action by an intelligent agent, thereby removing the event from either the regularity or chance category. Thus the choice of *design* as the label for the catchall remainder category was clearly not arbitrary for Dembski but was intended to convey a judgment regarding the character of most events in that category, which brings us back to our initial concern about the legitimacy or adequacy of Dembski's trichotomy rule.

The range of what constitutes an *event* in Dembski's analytical scheme is enormous—the single flip of a coin, the rolling of a pair of dice, the repeated flipping of a coin to yield one hundred heads in a row, the opening of a bank safe by dialing the correct combination on its lock, the stable orbital motion of planets, even the occurrence of life on planet Earth. Nonetheless, any event from such a diverse pool of events can, says Dembski, be run through his “Explanatory Filter”—an algorithm for determining the appropriate mode of causal explanation. Those events that cannot reasonably be placed in either the regularity or chance categories are then, by process of elimination, attributed to design.

What is the connection between design and intelligent agency? Dembski gives mixed signals on this key question. In the book's epilogue Dembski presents the connection as very tenuous and open to varied possibilities. “In Chapter 2,” he writes, “we defined design as the set-theoretic complement of the disjunction regularity or chance. Nothing in this definition entails a causal story, much less an intelligent agent, much less still a supernatural or occult power. Taken in its most fundamental sense, the word *design* signifies a *pattern* or *blueprint*. . . . Frequently the reason an event conforms to a pattern is because an intelligent agent arranged it so. . . . There is no reason, however, to turn this common occurrence into a metaphysical first principle” (pp. 226–27).

But this disclaimer stands in substantial tension with several statements made elsewhere in the book. For instance, early in the book Dembski informs the reader that “in practice, to infer design is not simply to eliminate regularity and chance, but to detect the activity of an intelligent agent. Though defined as a negation, design delivers much more than a negation. . . . There is an intimate connection between design and intelligent agency” (p. 62). Even more directly stated: “It's now clear why the Explanatory Filter is so well suited for recognizing intelligent agency: for the Explanatory Filter to infer design coincides with how we recognize intelligent agency generally. . . . The Explanatory Filter pinpoints how we recognize intelligent agency” (p. 66).

What does Dembski here mean by “design” and “intelligent agency”?

What exactly does it mean to be designed? What does an intelligent agent do? Is “design” merely a label for the “set-theoretic complement of the disjunction regularity or chance,” or could it be that this category label is intended to convey a more substantial meaning that could further another agenda, such as that of the “Intelligent Design” movement?

What does an intelligent agent do? Dembski says, “The principal characteristic of intelligent agency is *directed contingency*, or what we call *choice*. . . . Intelligent agency always entails discrimination, choosing certain things and ruling out others” (p. 62). As an example, Dembski asks the reader to consider two events in which ink is applied to paper. In one case the ink is accidentally spilled onto the paper from a bottle. In the other case a person writes a message on the paper with a fountain pen. Upon encountering the two pieces of inked paper and seeking causal explanations for the observed distribution of ink, it is clear, notes Dembski, that only one case demands an appeal to the action of an intelligent agent. The written message requires a discriminating choice. The other blotch of ink does not.

But is a discriminating choice all that is required? Clearly not, and this is crucial to our present concern. The intelligent agent must also effect that choice. She has to take pen in hand and write the chosen message. In Dembski’s example, and implicit in other literature of the Intelligent Design movement as well, the design action of an intelligent agent is twofold. First, the mind of the agent must thoughtfully conceptualize something (what Dembski refers to as making a discriminating choice). Then the intelligent agent (or Intelligent Designer) must perform an *additional act* in order to effect what has first been conceptualized or chosen. The agent in the inked paper example must place the pen in contact with the paper and move it in a prescribed pattern. Mind action has to be followed by hand action. Because the materials at hand—pen, ink, and paper—do not possess the requisite capabilities to form a written message, the agent must act directly to *force* a particular event to occur. To understand the essence of contemporary appeals to design, especially Intelligent Design, it is essential for us to note that the action in question is two actions, not one. Although modern proponents of ID have so far failed to say so candidly, to be intelligently designed is, by implication, to be *both* conceptualized for a purpose *and* assembled by the action of an extranatural agent.

To Dembski’s credit, his argument is developed in considerable detail and includes the careful consideration of numerous statistical and logical questions. Furthermore, his thesis is formulated in broad terms intended to be applicable to a diversity of events. However, because one of his case studies falls into an area of special interest to readers of *Zygon* (and also to the members of the ID movement with which Dembski is closely associated) let me now focus on that particular example.

Suppose that we take life's occurrence on planet Earth as an event to be subjected to Dembski's Explanatory Filter. (I shall assume that by "life" Dembski means living creatures of any type at any time.) What mode of explanation for that event would the filter select as most appropriate? Step 1, according to Dembski, is to determine whether this event falls into the category of regularity. For an event to fit into that category, however, it must be known to be a certain outcome of all relevant processes, given the antecedent circumstances. How, from purely scientific considerations, can we know *that* with the degree of certainty that Dembski requires?

I happen to believe that the Creation—that which was given being by the Creator "in the beginning"—was indeed optimally equipped by God, as a manifestation of God's unfathomable creativity and unlimited generosity, to make the actualization of life on some planet a sure thing. (See my essay "The Creation: Intelligently Designed or Optimally Equipped?" in *Theology Today* [October 1998]: 344–64.) Who of us can actually demonstrate, however, that atoms, molecules, molecular ensembles, and other such minuscule components of matter have all of the requisite creaturely capabilities to make the genesis and evolution of life a practical certainty? Who of us has the particular knowledge that would allow the computation of a probability value? Thus, even though the event under consideration may well be a practically certain outcome, the Explanatory Filter will reject the regularity category of explanation on the technical ground of there being insufficient detailed knowledge regarding the formational capabilities of the "stuff" of the Creation.

We must then move on to step 2 in Dembski's algorithm and decide whether the event can be the outcome of chance. (*Note:* I assume that Dembski does not intend to treat chance as if it can itself be a cause but that, given the extant array of proximate natural causes, life can be viewed as an accidental outcome.) Is the occurrence of life on planet Earth one of several possible outcomes, with a small but calculable probability? Once again I must ask, How on earth can we know the numerical answer to that? At this point it seems to me that the Explanatory Filter just plain clogs up. There is no way to proceed. The search for an explanatory mode by this route will have to be abandoned. Persons who are inclined to posit design as the answer (now clearly implying intelligent agency) may wish otherwise, but I see no justification for it.

People who prefer to believe that life could arise only as the outcome of irruptive, form-imposing acts by an intelligent agent (presumably God, in this case) will, I believe, just have to say so. There would be nothing wrong with the proponents of ID doing just that with candor. In fact, it would provide these "ID theorists" with the ideal occasion for placing all of their theological and philosophical cards on the table where any interested observer could give these worldview commitments the critical evaluation that

they deserve. I do not see Dembski's "design inference" strategy as helpful in any substantive way at this time. I could imagine Dembski's Explanatory Filter functioning well in the search for evidence of human agency in some range of events, but I see no justification for the expectation that it could be of any service in detecting divine agency, unless, of course, divine agency were modeled very closely after human agency, as the craftsman metaphor does for divine creative action. Perhaps it is time for evangelical Christians to replace the craftsman metaphor with something more fitting in their attempt to portray the historical manifestation of God's creative activity.

Let us move from the academy to the courtroom. Suppose that the truth of a substantive proposition could be decided in the manner of a legal case tried in a "court of scientific reasoning." Suppose further that you were serving as the lawyer arguing against one of today's vocal advocates of naturalism (I am using "naturalism" here in the broad sense of a comprehensive and atheistic worldview) who claimed that this universe and its life forms came into being as the outcome of nothing more than pure chance. Do you think you could persuade the jury that this fundamental claim of naturalism was demonstrably false?

No problem, says lawyer Dean Overman; the case against the proposition that our universe came into existence without design or intention can be convincingly made, and the arguments against the additional claim that life forms are the outcome of nothing more than unguided natural processes are equally compelling. If the jurors were able to follow good logic, this lawyer-author thinks you would be sure to win your case.

If Overman's reading of the scientific literature is appropriate, a straightforward appeal to realistically computed probabilities would demonstrate that the purely accidental assembly of living systems is effectively impossible. Furthermore, if your opponent chose to argue that material systems have the capabilities to self-organize into living organisms, you could argue that such a case could not be proved on the basis of what is actually known by the empirical sciences today. Finally, says Overman, you could clinch your case by pointing to the extreme improbability for the existence of a universe having all of the properties and capabilities (the fine tuning) that would make it just right for the emergence of life within the relatively brief time (130 million years) during which life apparently came to be formed on planet Earth. No doubt about it, argues Overman, we are the outcome not of blind chance but of intelligent design.

I presume that this is an attractive set of propositions for a large number of Christians, especially those in the conservative portion of the theological spectrum. Evidentialist apologetics, with its appeal to the power of the natural sciences for empirical support, would strike many persons in the evangelical Christian community as a promising strategy. Why not turn the effectiveness of scientific argumentation into an ally for the faith? Why

not turn the tables on the preachers of naturalism and use science to defeat their godless worldview?

My own response to these questions and to Overman's apologetic strategy is mixed. Let me begin on a note of agreement. With Overman, I find no substantial basis for the naturalistic appeal to any variant of happenstance as a satisfying explanation for the remarkable degree of fine tuning exhibited by the universe of which we are a part. I believe that the universe does indeed bear all the marks of being a Creation—the outcome of a Creator's thoughtful conceptualization for the accomplishment of a comprehensive purpose.

I would also agree with Overman that there may be good probabilistic arguments to rule out the idea that life forms are no more than the accidental coming together of the requisite parts. That has been known for a long time, however. Overman cites the minuscule probabilities computed by Hoyle and Wickramasinghe in support of his case, but those computations apply only to the accidental and simultaneous assembly of two thousand enzymes in one step from simple ingredients alone. Such a scenario was wholly unrealistic from the outset, and I do not see how repeating those results two decades later could serve any fruitful purpose in the present discussion.

Contemporary scientific theorizing about the formation and transformation of living systems represents an attempt to be far more realistic than those "one-step accident" scenarios initially offered. The need to consider multistep processes is now clearly recognized. Greater recognition is now also given to the fact that the fundamental constituents of living systems—atoms, molecules, molecular ensembles, and the like—have far greater powers of self-organization than was first envisioned.

Overman does consider this recent development, but he judges it unlikely to be fruitful. He rejects self-organization just as vigorously as he rejects accident. As if to suppress the idea that matter has any active capabilities at all, Overman repeatedly refers to it dismissively as "inert matter." Chemists will certainly wish to take issue with that label.

On the question of self-organization, I not only disagree with Overman but also find his strategy to be fundamentally inconsistent with his appeal to the universe as having been fine-tuned for the formation of life. In order to demonstrate this point, however, I must first introduce some new terminology. Specifically, I must appeal to a concept that I have come to call the Robust Formational Economy Principle.

By the "formational economy" of the universe I mean the set of all of the capabilities of atoms, molecules, molecular ensembles, cells, and other material systems that have contributed to the formational history of the universe. Creaturely powers of self-organization and transformation would be especially prominent contributions to the vast array of capabilities that this list comprises.

As I reflect on the fruitless and dissipative creation-evolution debate that still rages in North America today, it seems to me that one of the fundamental questions at issue could best be expressed thus: Is the Creation's formational economy sufficiently robust to make possible the actualization of all of the physical structures (such as planets, stars, and galaxies) and all of the life forms that have ever existed? Or is the Creation's formational economy incomplete in the particular sense that it must be supplemented by occasional episodes of special creation or intelligent design in order to assemble at least some novel life forms in the course of time?

Proponents of the Robust Formational Economy Principle, whether their worldview be theistic or naturalistic, proceed on the assumption that there are no gaps (caused by missing capabilities) in the formational economy of the universe that had to be bridged by episodes of extranatural assembly, most commonly envisioned as form-imposing acts of divine intervention. Christian proponents of this principle (myself included) would see it as evidence of God's unfathomable creativity and unlimited generosity in bestowing on the Creation such a rich ensemble of capabilities. Naturalistic proponents, on the other hand, face the difficult challenge of accounting for this noteworthy state of affairs without appealing to any transcendent Source for the robust formational economy of a universe that just happens to exist.

Back to Overman's argumentation: In rejecting the idea that the fundamental constituents of the Creation have sufficient power of self-organization to actualize the full array of life forms, Overman is rejecting the Robust Formational Economy Principle. He is presuming that the actualization of at least some forms of life, especially the first instance of life, required additional divine creative action. He refers to this action as "intelligent design," but such terminology could easily be misinterpreted. Intelligent design, as it is now being employed by its chief proponents (Overman approvingly cites Phillip Johnson, Michael Behe, Walter Bradley, Charles Thaxton, and others), means not only (1) thoughtful and purposeful conceptualization but also (2) actualization by means of occasional form-imposing action by some extranatural agent.

Overman is certainly free to reject the idea that the Creation has been sufficiently gifted to self-organize into the life forms we now see, but that rejection is awkwardly inconsistent with his appeal to the idea that the universe appears to have been fine-tuned for the emergence of life. The fine-tuning concept to which Overman appeals has significance only within the context of presuming that the actualization of life forms is itself the outcome of the robust formational economy of the universe. If life could appear instead as the consequence of occasional episodes of extranatural assembly, there would be no need for several of the entries in the list of "cosmological coincidences" that are taken as evidence for fine tuning.

Taken individually, many of Overman's points could be seen as the sort

of argumentation that a good lawyer would be expected to present in a courtroom setting. I doubt, however, that scientific theory evaluation is likely to be done well in that venue. Recent courtroom decisions have amply demonstrated the vast difference between winning a case and demonstrating the truth. Furthermore, since Overman's entire case is shaped by an evidentialist apologetic strategy and an interventionist concept of divine creative action, I would suggest that these foundational presuppositions deserve far more theological scrutiny than is evident in this book.

Does the Intelligent Design movement, which includes both authors here reviewed, have a chance? From my perspective, No. Not until it is willing to place its theological and philosophical cards on the table so that its foundational presuppositions may be opened to public scrutiny and evaluation. Furthermore, its proponents must, I believe, be willing to explain with candor exactly what they think it means to be "intelligently designed." The importance that ID proponents place on the role of extranatural assembly must be made explicit. The central role of "hand action" should no longer be hidden under the cover of the ID label that directs primary attention to the actions of a Mind.

Note: The review of Overman's book is a revised version of one published in *Perspectives: A Journal of Reformed Thought* 13 (December 1998): 21–22.