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DARWIN'S PREDICTABLE DEFENDERS: A RESPONSE TO MASSIMO PIGGLIUCI[1]

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Some Darwinists keep their Darwinism close to the vest. Others wear it on their sleeves. Massimo Pigliucci has it tattooed on his forehead. Indeed, his "Darwin Day" celebrations at the University of Tennessee have become an annual orgy of self-congratulation before the idol Darwin.

I first learned of Pigliucci in 1999. He had written a "scathing" review of my book *The Design Inference* (Cambridge University Press, 1998) for *BioScience*. I put "scathing" in quotes because the review was shamelessly over the top. According to the review, intelligent design represents a new holy war against science that must be stopped dead in its tracks. I had to chuckle.

THE NEW PIGLIUCCI

Pigliucci's review amused others as well. Mark Vuletic even wrote a review of the review (for Infidels.org no less), pointing out that Pigliucci had utterly failed to address my arguments and urging him to stay on topic in the future. Pigliucci has since taken Vuletic's advice to heart and now does address my actual arguments as well as those of the intelligent design community.

I'm not sure whether I prefer the old Pigliucci or the new. The old Pigliucci was over the top but fun to read. In his review of *The Design Inference*, for instance, one finds choice quotes such as: "Dembski cloaks his logic with semi-obscure (and totally useless in practice) pseudo-mathematical jargon and symbolism….Let the reader decide if I am justified in inferring a conspiracy behind this book….The battle is already raging, and scientists and educators are still not sure if they should even bother paying attention."

The new Pigliucci stays on topic, addresses our actual arguments, is no longer intemperate, and is completely predictable — in short, he is boring. When I read his piece for the *Skeptical Inquirer* titled "Design Yes, Intelligent No," which criticized my work and that of Michael Behe, I thought I could easily have written a more "devastating" critique of my own views.

Here's how it's done (imagine I'm coaching you on how to deconstruct intelligent design): The first step is to establish the right rhetorical tone. Stress science as a great force for enlightenment and contrast it sharply with fanatical religious fundamentalism. Then stress that intelligent design is essentially a religious movement. Generously use the "C-word" to confuse intelligent design with creationism and emphasize the supposed similarity of creationism to astrology, belief in a flat earth, and Holocaust denial.

Once guilt by association is in place, then play on the theme that intelligent design is "deeply flawed." Think of the phrase "deeply flawed" not as an actual criticism but as a slogan that evokes the appropriate emotional response (compare "Don't leave home without it," "This Bud's for you," or "Just do it!").

Having set the right rhetorical and emotional tone, the next step is to press home two points: first, Darwinism can explain everything for which design theorists think they need an intelligent designer; second, the problem of poor or substandard design in biology casts doubt not only on the competence of the designer but also on the designer's very existence.

IS INTELLIGENT DESIGN SUPERFLUOUS?

The first order of business, then, is to establish that intelligent design is superfluous. For instance, because my research focuses on methods of design detection, Pigliucci argues that what my methods detect in biology is really the result of the Darwinian mechanism of natural selection and random variation rather than intelligent design.

Once design is shown to be superfluous (not by a rigorous argument but by assertion and hand-waving — there are no well-confirmed Darwinian pathways to any complex biological systems), argue that even if a designer exists, the designer was incompetent and wicked. Pigliucci himself runs through a litany of complaints about how poorly constructed the human body is — wouldn't a competent designer have designed us not to have hemorrhoids, varicose veins, and backaches?

An incompetent or wicked "intelligent design" is an important problem, but it is a theological rather than a scientific problem. Moreover, it does not get around the scientific problem of design. Biological examples of nanoengineering do exist, surpassing anything human engineers have concocted or hope to concoct. Intelligent design thus forces science to come to terms with the many examples of exquisite design in nature.

One such example is the bacterial flagellum, which is an acid-powered rotary motor with a whiplike tail that spins at 20,000 rpm and whose rotating motion enables a bacterium to navigate through its watery environment. The intricate machinery in this molecular motor — including a rotor, a stator, O-rings, bushings, and a drive shaft — requires the coordinated interaction of numerous complex proteins. Engineers marvel at this example of nanoengineering. Darwinists reflexively attribute it to natural selection, even though no plausible Darwinian pathway has ever been proposed to account for it (and that despite thousands of research articles about this one biological system).

How can Darwinists say intelligent design is superfluous if Darwinists have uniformly failed to make headway with molecular machines such as the bacterial flagellum? How can they have such confidence in their theory when it fails to explain the complexity of even the most basic molecular systems needed for life to exist (e.g., enzymes)?

AN ARGUMENT FROM IGNORANCE?

It's at this point that Darwinists such as Pigliucci pull out their ace in the hole, the dreaded "argument from ignorance" or "god of the gaps" objection. The problem with intelligent design, according to Darwinists, is that it constitutes an argument from ignorance. Real science, we are told, explains in terms of natural causes. Intelligent design, by contrast, invokes supernatural causes. Intelligent design, essentially, just says, "God did it."

Intelligent design is about intelligent causes, not supernatural causes. Moreover, there is nothing mysterious about intelligent causes. In ordinary life, we employ chance, necessity, and intelligence (or design) as causal explanations. True, in the natural sciences, design has come to be regarded as superfluous, but that's not because the natural sciences have successfully dispensed with design. It is rather because Darwinism and the materialist philosophy that undergirds it have stacked the deck against design.

From the perspective of Darwinism, design, as the action of an intelligent agent, is not a fundamental creative force in nature. Blind natural causes — characterized by chance and necessity, ruled by unbroken laws, and operating through a long evolutionary process — are thought sufficient to do all nature's

creating. How do we know, however, that nature requires no help from a designing intelligence? In specialized sciences ranging from forensics to archaeology to SETI (the Search for Extraterrestrial Intelligence), appeal to a designing intelligence is certainly indispensable. What's more, within these sciences there are well-developed techniques for identifying intelligence. Essential to all these techniques is the ability to eliminate chance and necessity.

For instance, how did the radio astronomers in *Contact* (the Jodie Foster movie based on Carl Sagan's novel of the same name) infer the presence of extraterrestrial intelligence in the beeps and pauses they monitored from space? The researchers ran signals through computers programmed to recognize many preset patterns. Signals that do not match any of the patterns pass through the "sieve" and are classified as random.

After years of receiving apparently meaningless "random" signals, the researchers discovered a pattern of beats and pauses that corresponded to the sequence of all the prime numbers between 2 and 101. (Prime numbers are those that are divisible only by themselves and by one.) When a sequence begins with 2 beats, then a pause, 3 beats, then a pause...and continues all the way to 101 beats, the researchers must infer the presence of an extraterrestrial intelligence.

Here's why. Nothing in the laws of physics requires radio signals to take one form or another. The sequence is therefore contingent rather than necessary; it is also a long sequence and therefore complex. If the sequence lacked complexity, it could easily have happened by chance. Finally, it was not just complex, but it also exhibited an independently given pattern or specification (it was not just any sequence of numbers but a mathematically significant one — the prime numbers).

SPECIFIED COMPLEXITY

Intelligence leaves behind a characteristic trademark or signature — what I call "specified complexity." An event exhibits specified complexity if it is contingent and therefore not necessary, if it is complex and therefore not easily repeatable by chance, and if it is specified in the sense of exhibiting an independently given pattern. Note that complexity in the sense of improbability is not sufficient to eliminate chance: flip a coin long enough, and you'll witness a highly complex or improbable event. Even so, you'll have no reason not to attribute it to chance.

What is important about specifications is that they be objectively given and not imposed on events after the fact. For instance, if an archer shoots arrows into a wall and we then paint bull's-eyes around them, we impose a pattern after the fact. On the other hand, if the targets are set up in advance ("specified") and then the archer hits them accurately, we know it was by design.

In applying the test of specified complexity to biological organisms, design theorists focus on identifiable systems — such as individual enzymes, molecular machines, and the like — that exhibit a clear function and for which complexity can be reasonably assessed. It follows that once some part of an organism exhibits specified complexity, then any design attributable to that part carries over to the whole organism. It is not necessary to demonstrate that every aspect of the whole organism is the result of design. Some aspects may be the result of chance or necessity.

What, then, are we to make of Pigliucci's argument from ignorance objection? Whenever I hear Darwinists claim that intelligent design constitutes an argument from ignorance, I'm reminded of the 1960s movie, *A Guide for a Married Man*, starring Robert Morse and Walter Matthau. Morse takes Matthau under his wings to show him the fine art of infidelity. When Matthau asks Morse what to do if his wife catches him with another woman, Morse says, "Deny, deny, deny."

Morse then relates the story of a man whose wife found him in bed with another woman. When his wife demanded to know who this woman was and what was she doing with him, he simply kept asking "What?" (as in "What's the problem?"). Eventually the other woman left and the wife became confused. She finally changed the subject and asked her husband what he wanted for dinner.

In leveling the "argument from ignorance" objection, Darwinists go this one better. Not only do they deny that there is any problem with their theory, but they also turn the tables on anyone who disagrees, attributing the problem elsewhere rather than to their theory. In Freudian terms, they are guilty of projection as well as denial.

Darwinists haven't a clue how systems like the bacterial flagellum might have evolved. On the other hand, we know intelligence is capable of designing high-tech systems such as this; yet we are to believe it is the design theorists who are guilty of arguing from ignorance and the Darwinists who know what really happened. Whom does Massimo Pigliucci think he's kidding?

NOTES

1. Massimo Pigliucci, "Design Yes, Intelligent No: A Critique of Intelligent Design Theory and Neocreationism," *Skeptical Inquirer*, September–October 2001, 34–39.