

## **Addicted to Caricatures: A Response to Brian Charlesworth**

By William A. Dembski

The journal *Nature* had Brian Charlesworth review my book *No Free Lunch* in its 11 July 2002 issue. I would repeat the entire article, but copyright restrictions prevent me. The article is available at <http://www.nature.com> to subscribers for free and to nonsubscribers for a fee. I respond to the article here.

One prominent evolutionist I know confided in me that he sometimes spends only an hour perusing a book that he has to review. I doubt if Brian Charlesworth spent even that much time with my book *No Free Lunch*. Charlesworth is a bright guy and could have done better. But no doubt he is also a busy guy. To save time and effort, it's therefore easier to put these crazy intelligent design creationists in their place rather than actually engage the merits of their arguments. Charlesworth's review is riddled with caricatures and stereotypes. The amateurs at talk.origins frankly have done a much better job trying to critique me.

Charlesworth's review begins by citing Newton and Laplace to show the futility of intelligent design. In Newton's day it was still acceptable to think of a designer behind the world. But by Laplace's time it no longer was. As Laplace told Napoleon when asked about where God fit into his equations of celestial mechanics, "Sire I have no need of that hypothesis." Following Laplace, Charlesworth concludes that "the whole enterprise of modern science is built on the assumption that nature can be understood without appealing to the intervention of gods or goblins."

In the first chapter of *No Free Lunch*, I cite Newton and Laplace as well. In fact, I quote the same line that Charlesworth quotes ("Sire, I have no need of that hypothesis"). My point there, however, is not that the whole enterprise of science properly takes its cue from Laplace, but rather that the fundamental explanatory modes of science have changed over time. Laplace, for instance, was a strict determinist (recall his Laplacean demon). Since Laplace's day, indeterminism has come back into science in the form of quantum mechanics. Whereas my point was that science's modes of explanation themselves evolve, Charlesworth holds that a naturalistic construal of science, one that eliminates not only gods and goblins but also any sort of fundamental teleology from the universe, is mandatory. But why should it be mandatory? Charlesworth offers a fig leaf of justification: "Most people would agree that it [science] has been remarkably successful."

Science is a vast and variegated enterprise. Certainly some aspects have been hugely successful. But others have not. Proponents of intelligent design contend that evolutionary biology has been hugely unsuccessful at resolving the problem of life's origin as well as the emergence of biological complexity. Charlesworth thinks that the success of science warrants that evolutionary biologists stick to their guns and resist the incursions of design and teleology into their discipline. But let's be clear that the challenge of intelligent design is real. This is not like someone who claims that ancient

technologies could not have built the pyramids, so goblins must have done it. We can show how, with the technological resources at hand, the ancient Egyptians could have produced the pyramids.

By contrast, the material mechanisms known to date offer no such insight into biological complexity. Cell biologist Franklin Harold in his most recent book, *The Way of the Cell*, remarks that in trying to account for biological complexity biologist thus far have proposed merely "a variety of wishful speculations." If biologists really understood the emergence of biological complexity in material terms, intelligent design couldn't even get off the ground. The fact that they don't accounts for intelligent design's quick rise in public consciousness. Give us a detailed testable mechanistic accounts of the origin of life, the origin of the genetic code, the origin of ubiquitous biomacromolecules and assemblages like the ribosome, and the origin of molecular machines like the bacterial flagellum, and intelligent design will die a quick and painless death.

Having touted the success of science, Charlesworth begins with the required caricatures and stereotypes. According to him, intelligent design "wants to turn back the clock" and "smacks of the Middle Ages." In particular, intelligent design appeals to "the continual intervention of an unobservable designing intelligence in the course of nature." Let's look at this last claim. In what sense is cold dark matter unobservable? Because it is cold and dark, it cannot be observed directly. Yet if it exists and does what cosmologists attribute to it, it has observable consequences, namely, holding the universe together so that it doesn't fly apart. The fact that a designing intelligence is unobservable does not mean that it has no observable consequences. Intelligent design proponents contend that biological complexity is one such observable consequence. But does such an observable consequence require "continual intervention." No. As I point out in *No Free Lunch*, intelligent design is compatible with a front-loaded form of design in which all the design is, as it were, put in at the beginning and then plays itself out as a computer program. Just how the design in the universe gets expressed is an open question within the intelligent design research program.

Next Charlesworth rehearses two actual arguments I make in the book, though in the rehearsal they become largely unrecognizable. The first is my use of specified complexity as a marker of intelligent design. This is given short shrift as simply a variant of Hoyle and Wickramasinge's image of a tornado in the junkyard constructing an airplane, where things are so so so improbable that they couldn't possibly have happened by chance and thus must have been designed. But that's not how evolution works, chides Charlesworth. Evolution works as "a step-by-step adjustment of individual characters occurs, each of which is advantageous in terms of darwinian fitness." Well, quite. And I address precisely that point in the book. Indeed, I argue that specified complexity needs to take into account the changes in probability that result from such step-by-step adjustment.

Charlesworth, still on specified complexity, also charges me with ignoring "the large body of biological evidence on the emergence of evolutionary novelties in response to new environments." What, pray tell, is the large body of biological evidence on the emergence of irreducibly complex biochemical machines like the bacterial flagellum? I'm

not talking about handwaving just-so stories, but detailed testable models for how such a system could have arisen by Darwinian or other material means. The fact is that one can't ignore something that doesn't exist. If such evidence were actually available, I would never have gotten into intelligent design.

The other argument of mine that Charlesworth rehearses is my extension of Michael Behe's work on irreducible complexity. Only Charlesworth gives no evidence of understanding (or having read?) Behe's original argument, much less my extension of it. Charlesworth invokes the eye as an example of an irreducibly complex system that could not have evolved. But the eye is not irreducibly complex -- components may be removed without vision being entirely destroyed. Charlesworth then gives the standard Darwinian just-so story of how an eye may be formed by gradually increasing its visual acuity. I personally find the Darwinian account of how the eye evolved as utterly implausible. This system is so complicated, however, that I don't even try to apply the techniques for design detection that I develop to it. The one system I focus on in *No Free Lunch* is the bacterial flagellum, for which no detailed Darwinian pathway has been proposed. Charlesworth's appeal to the eye is therefore beside the point.

After dispensing with my two arguments, Charlesworth closes his review with two paragraphs. In the penultimate paragraph, he sings the praises of evolutionary biology and the dedicated evolutionary biologists who are valiantly making discoveries "consistent with what is expected from our models of evolution" -- no indication here that the very enterprise of trying to discover things consistent with one's expectations may bias what one discovers. Charlesworth sees the record of discoveries by evolutionary biologists as an overwhelming vindication of the theory. But is the theory in fact overwhelmingly vindicated by the evidence of biology or is this more a matter of evolutionary biologists deluding themselves into seeing what they want to see? Intelligent design argues for the latter.

And so, in the final paragraph I'm called in for some further rapping of the knuckles. Thus I'm charged with committing a god-of-the-gaps argument (I deal with this charge at length in *No Free Lunch*). Further I'm charged with "smugly refusing to provide any details of what the designer has in mind." I find this last charge remarkable. Can Charlesworth answer what I had in mind in writing *No Free Lunch*? Do I actually believe all this stuff about biological systems being designed, or am I simply writing about it to gain notoriety and make a killing off the speaker-circuit? Charlesworth can't even get into my mind. Why, then, should getting into the mind of the designer responsible for biological complexity be an issue? What was important for Charlesworth (in reviewing my book) was to read my text accurately and make sense of the design evident there (specifically the arguments I was making), regardless of source or motivations behind the text. Likewise, what's important for biology is to read the data of biology accurately and make sense of whatever design is evident there, regardless of who or what the designer might have in mind.

Continuing with the one-liners, Charlesworth claims, "His [Dembski's] theory can explain anything, and therefore explains nothing." It's facile claims like this that lead me

to question whether Charlesworth read my book at all. Over and over again in my work I've stressed that even though design and intention might in principle explain anything, the fact is that it does not explain things for which nondesign provides a better explanation. Perhaps all the roulette wheels at Caesar's Palace in Las Vegas are actually rigged and their outcomes are fully determined by the intention of the casino manager. But without evidence of this and with outcomes that appear random, we don't invoke design as an explanation but instead prefer chance as an explanation. Just because design can in principle explain anything doesn't mean that it explains everything or for that matter explains nothing. Certain patterns of roulette wheel outcomes could reliably point to intelligent design. For instance, if the alternation of colors on successive outcomes of the roulette wheel represented a long sequence of prime numbers, intelligent design would be a required inference.

Charlesworth concludes with the standard appeal to biological imperfection and evil. Quoting Haldane, he asks what sort of designer would be responsible for the tapeworm. The problem of imperfection and evil is real and pervasive, not just in biology but throughout all areas where design occurs. This problem raises questions about the morality and motivations of a designer, but doesn't remove the problem of design as such. What sort of designer was responsible for the Nazi concentration camps, for the torture devices used by the Spanish Inquisition, or for the nuclear, biological, and chemical weapons that threaten our civilization? In none of these cases does any answer we give make the design problem go away. The reason such questions have traction in biology, however, is because the designer in biology is widely supposed to be a benevolent and omnipotent God. And this, in turn, is supposed to raise the classic theodicy problem (if God is good and all powerful, whence evil?). There are answers to the theodicy problem, but they are theological answers (and appropriately so, since the theodicy problem is not a scientific but a theological problem). Even so, the question of design as such must first be settled, and that is what I attempt to do in *No Free Lunch*. The goodness or badness of design is logically downstream and has no way of overturning the reality of design once that's clear. And increasingly it is becoming clear.