Review: **JAR2404**

A BAD ANALOGY RUN AMOK

a book review of

Evolution

Scripture and Nature Say Yes!

by Denis O. Lamoureux

(Zondervan, 2016)

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Analogies — comparisons between disparate things —are key tools for generating understanding. A good analogy helps us to understand, without misleading us at the same time. Bad analogies mislead, however, because they create basic misunderstandings while giving us the illusion of knowledge. A bad analogy emphasizes superficial resemblances, but conceals that the two things being compared actually differ far more than they resemble each other. Moreover, the misunderstandings thereby engendered are often not easily repaired. The bad analogy captures one's imagination like a pair of distorting spectacles permanently fastened to one's head. (How is that for an analogy?) One must break the spectacles to get them off and to restore one's vision.

I would like to break a pair of distorting spectacles that Denis Lamoureux has been wearing for a very long time now and is recommending to others. Lamoureux is a professor of science and religion at the University of Alberta, trained in dentistry, theology, and biology (with doctorates in each field), and one of the world's leading advocates of "evolutionary creation." He is also an old friend of mine. We first met at Cambridge University in July 1994, where we discovered our shared interest in developmental biology, evolution, and the relationship of science and theology. We have been friends ever since.

Thus, what I write in this review, I would happily tell Lamoureux over lunch — "to his face," as the saying goes — but with the good humor that our friendship requires. His new book, *Evolution: Scripture and Nature Say Yes!* (hereafter, *Evolution*),

contends that biological evolution can be compared accurately to embryological development. Both processes were set up by God, Lamoureux thinks, to produce the outcomes God desired. The book says a lot more than that, of course, but I want to focus on what I will argue is this exceedingly bad analogy at the heart of Lamoureux's case for evolutionary creation. Evolution as a biological theory of origins is *nothing at all* like the embryological development of an animal.

Now, in an important sense, Lamoureux knows this already and does not need me to point it out. He knows that evolution, as commonly presented in biology textbooks and taught to students, rests on a "blind chance" premise, built into the theory's essential logic by Charles Darwin himself, in 1859, and followed by most biologists ever since. After his initial formulation of evolution by natural selection in the late 1830s, Darwin tenaciously clung to this "variation as a chance event" premise throughout the remainder of his life. The novel variations, on which the evolutionary process depends for its raw materials, arise in organisms strictly as a matter of random change, without respect to their future utility or "fitness value."

One can observe Darwin's tenacity about this foundational randomness premise in his lengthy correspondence with the Harvard botanist Asa Gray (1810–1888), a Christian who thought that God providentially guided the right variations to occur. "To take a crucial example," Darwin wrote to Gray in November 1860, "you believe 'that variation has been led along certain beneficial lines.' — I cannot believe this."[1] Darwin's disbelief never wavered; he simply could not accept Gray's proposal that variation was guided, because that would entangle God in the evolutionary process, and Darwin wanted a theory where God did as little as possible.

Nor can modern evolutionary biologists accept Gray's "guided variation" proposal. The theory of evolution, as expressed at every level in current biology, from introductory textbooks on up to technical journals, stresses that "genetic variation occurs randomly, not in response to the needs of a population or organism….Genetic variation is random."[2] No one is watching over or directing what changes occur.

As a Christian, however, Lamoureux wants to avoid this foundational commitment to blind chance and randomness; therefore, he distinguishes what he calls "teleological evolution" from "dysteleological" or "atheistic evolution." The latter represents the theory as taught in the biology department at the University of Alberta.

Another Flavor of Evolution? Teleological evolution, on the other hand, is the theory advocated by Lamoureux. As he describes it, "From this point of view, evolution is a planned natural process that heads toward a final goal — the creation of the universe and life with men and women. If this is the case, the Creator made the world through 'teleological evolution'" (52).

To support this goal-directed interpretation of evolution, Lamoureux turns to the step-wise processes of animal and human development, namely, the orderly, species-specific transformations that occur as fertilized eggs become adult fruit flies, frogs, or human beings. He writes, "I have yet to meet a Christian who thinks that the Creator came out of heaven to miraculously attach an entire leg or arm to their developing body

in the womb. Instead, we believe that the Lord creates every person through his *ordained* and *sustained* embryological mechanisms….Is it possible that the Lord created another set of creative mechanisms in nature that scientists call 'evolutionary processes'?" (42).

The first problem with this "Evolution-Embryology Analogy" (Lamoureux's own term) is that Lamoureux nowhere explains what evolution *as a biological theory* actually asserts, so that we can compare that theory point-by-point with the details of animal development. Evolution as presented in *Evolution* amounts to little more than one species changing into another over long periods of time; the book says nothing about how those changes occur.

Thus, the Evolution-Embryology Analogy turns out to be only this: two different things are changing (species / a developing organism); those changes occur naturally (via evolution / via development); God instituted both processes to carry out His will. Easy and clear enough, right?

Well, not really. The table below compares neo-Darwinian evolution — the theory one learns at almost any high school or university — to animal and human development.

Notice that *at every point* the two processes differ.

	Evolution by Natural Selection (and other undirected processes)	Animal (including human) Development
Initial Conditions	Origin of life by random chemical processes on the early Earth	Information-rich egg, produced in complex maternal environment, fertilized by sperm.
Sources of Information (instruction set)	Environmental conditions, random (i.e., undirected and unpredictable) mutations	Billions of base pairs of maternal and paternal DNA; egg structure; maternal environment
Outcome in Form and Function	Usually unpredictable over long time scales, given many random mutations and changing environments	Usually predictable, given known constraints on possible changes in normal development
Are human beings certain to be produced by this process?	If we start in the primordial soup, and rely on random genetic changes along the way? Definitely **NO**	If we start with a normal fertilized human egg? All things being equal, **YES**

With normal development, once one knows what species the fertilized egg belongs to, one can predict with near certainty the final form (i.e., the distant target) of the process. Given half a chance, a fruit fly embryo wants to turn into an adult fruit fly, via a well-defined embryonic pathway. The developmental trajectory is guided with precision by the maternal environment (e.g., her ovarioles, where the egg itself is constructed), and DNA instructions from both parents. Moreover, we never expect to see a beetle or even a honeybee at the end of the road. Fruit fly eggs turn into fruit flies.

Given half a chance, a human embryo is headed toward a squirming, wailing baby, and eventually a teenager glued to her iPhone. Normal development always produces a representative of the same species, and no other. There are no chimps in the hospital's maternity ward, unless they are visiting from the zoo.

Sorry, the Randomness Is Inescapable. How about evolution by undirected natural processes? There the outcome is anyone's guess, because the ultimate origin of novelty (and new species) is random genetic mutations, and we cannot know in advance what will pop out of the lottery tumbler of cosmic randomness. Evolutionary textbooks stress this conclusion, typically repeating it a few times so the readers cannot possibly miss the lesson. "Man is the result of a purposeless and natural process," wrote leading neo-Darwinian paleontologist George Gaylord Simpson, "that did not have him in mind."[3]

In the evolutionary process, as it commences on the early Earth with the formation from chemistry of the first cells, there is nothing — literally, *no thing* — corresponding to the detailed instructions present in any animal or human embryo. In short, evolution as usually formulated, and embryonic development, are as different as any two processes can be.

As noted above, Lamoureux has a name for this textbook version of evolution: he calls it "dysteleological," and in a twopage table in *Evolution*, he notes that the theory rests on "blind chance and natural processes." Dysteleological evolution is *not* the theory Lamoureux wants you to accept.

The Trouble with Content-Free Adjectives. So let's try another analogy to see if we can put our finger on the problem with his alternative "teleological" evolution. "Teleological" as an adjective comes from the Greek root *telos*, meaning "end, purpose, or goal." With teleological evolution, at least *some* aspects of the standard theory, as documented in the table above — fundamental randomness, for instance — must be modified. Otherwise, we will end up in the same place, with humans as the unexpected outcome of an undirected process. The logic of neo-Darwinian explanation allows for no other conclusion.

Analogy: suppose you and I visit an ice cream store. *Ice cream* is the noun; *chocolate, vanilla, pistachio, mint chocolate chip, espresso coffee,* and *strawberry* are the adjectives. I order pistachio ice cream. After looking over all the options, you choose mint chocolate chip. *The adjectives make a difference to the outcome.* You do not expect a cone filled with vanilla ice cream if you ordered mint chocolate chip.

One may search the whole of *Evolution* to learn how the adjective "teleological" makes any explanatory difference to evolutionary theory, but Lamoureux does not provide the answer. He has simply parked an adjective in front of "evolution," but it is impossible to say what it is doing there. As my Discovery Institute colleague Steve Meyer puts it, "teleological" is a distinction that doesn't make a difference. For scientific or explanatory purposes, "teleological" is an entirely empty modifier. If we want to know how evolution works, we had best consult a biology textbook, and we're right back at the standard theory, with its randomness premise.

"Of course," writes Lamoureux, "it takes a step of faith to either accept or reject the belief that the evolutionary process was designed by a Creator" (82). One cannot know that design is real, because it is undetectable. Since Lamoureux takes "faith" and "knowledge" to be antonyms, that's understandable, but then he really should drop "teleological" from his argument, because evidentially, there is nothing there to justify the adjective. Until further notice, evolution is what Darwin said it was: an undirected process, grounded in chance events, which happened to produce *Homo sapiens*. —*Paul Nelson*

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NOTES

1 Charles Darwin, "To Asa Gray 26 November [1860]," Darwin Correspondence Project, University of Cambridge, https://www.darwinproject.ac.uk/letter/?docId=letters/DCPLETT-2998.xml;query=design%20asa%20gray;brand=default.

2 Working Group on Teaching Evolution, National Academy of Sciences, *Teaching about Evolution and the Nature of Science* (Washington, D.C.: National Academy Press, 1998), 15–16.

3 George Gaylord Simpson, *The Meaning of Evolution,* rev. ed. (New Haven, CT: Yale University Press, 1967), 34