Book Review

Review of Jerry A. Fodor & Massimo Piattelli-Palmarini's Book: What Darwin Got Wrong

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ABSTRACT

I agree with most of Fodor and Palmarini`s analysis. They ask what kind of "theory is natural selection?," and write the following: "The same kind as Skinner`s theory of operant conditioning. With, however, the following caveat: all that`s wrong with Skinner`s story about filtering of psychological profiles is that it is a variety of associationism, and quite generally, associationism is not true. But Darwinism has (we`ll claim) no analogous story about the evolutionary filtering of randomly generated phenotypes. In consequence, whereas Skinner`s theory of conditioning is false, Darwin`s theory of selection is empty." You can find this book at Amazon http://www.amazon.com/What-Darwin-Wrong-Jerry-Fodor/dp/0374288798/ref=cm_cr-mr-title .

Key Words: Darwin, wrong, empty, evolution, natural selection, random.

Fodor and Piattelli-Palmarini (page xiii) write: "It is our assumption that evolution is a mechanical process through and through. We take to rule out not just divine cause but final causes, elan vital, entelechies, the intervention of extraterrestrial aliens and so forth." The authors then go on to refute Darwinism, but I will also argue that this reliance on mechanical processes is equally dubious.

In contrasting operant conditioning (OT for short, to indicate Skinnerian behaviorism) and evolutionary theory (ET) they (page 13) blunder again by writing the following. "The analogy between OT and ET is exact in this respect: both prescind from the postulation of mental causes. The difference is that Darwin was right: evolution really is mindless. But Skinner was wrong: learning is not."

I will argue that Darwin was as wrong as Skinner, and this will transform Fodor and Palmarini`s indictment of Darwin into a stronger refutation. The natural extension of Darwin`s mindless evolution is Skinner`s behaviorism, and this culminates with evolutionary psychology. However, this over-extension forgets the possibility of panpsychism, see:

Panpsychism in the West (Bradford Books)

And it forgets the possibility of Goswami`s evolution, see:

Creative Evolution: A Physicist's Resolution Between Darwinism and Intelligent Design

Nevertheless, I agree with most of Fodor and Palmarini`s analysis. They (page 16) ask what kind of "theory is natural selection?," and write the following. "The same kind as Skinner`s theory of operant conditioning. With, however, the following caveat: all that`s wrong with Skinner`s story about filtering of psychological profiles is that it is a variety of associationism, and quite generally, associationism is not true. But Darwinism has (we`ll claim) no analogous story about the evolutionary

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filtering of randomly generated phenotypes. In consequence, whereas Skinner`s theory of conditioning is false, Darwin`s theory of selection is empty."

It is true that mind has the power to coopt deterministic chains thereby defeating behaviorism. Likewise, the evidence implies that life can also coopt deterministic chains, and Fodor and Palmarini did not pick up on this second observation even as they present the very evidence that will lead us to this conclusion. I am now coopting the evidence for my own purpose!

The authors (page 26) write: "... the assumption of atomistic (one trait at a time) mechanism of natural selection is still at the core of many popular or semi-popular neo-Darwinian explanations. The structural solidarity of several different traits, which have to be selected wholesale or not at all, make free-riders and accessory phenotypes not a rare exception, but rather the rule." The free-riders relate to that which coopts, and this permits a life-force that can coopt deterministic chains (in my view); i.e., to invent a novel function from prior functions thereby converting yesterday`s free-rider into tomorrow`s work-horse. For example, the human form coopts 24,000 genes, most of them from non-human sources.

The authors (page 28) write: "The main discovery of evo-devo has been the remarkable invariance of genetic building blocks of evolution. Because highly conserved master genes can persist through hundreds of million of years of evolution, it is possible to perform experiments that exhibit aspects of genetic rescue. This means that a healthy variant of a given gene, if suitably inserted into the embryo at a very early stage and then activated, can successfully compensate for a defective variant of that same gene."

They (page 31) write: "The very least that can be said, in the light of evo-devo, is that a unidimensional theory of evolution hasn`t a prayer of being adequate. The frequent conservation of genes and gene complexes refutes that idea that morphological and functional convergences are, almost always and everywhere, to be construed as adaptive solutions to correspondingly ubiquitous survival problems."

Fodor and Palmarini (page 50) write: "... natural selection cannot select isolated traits, but rather coordinated complexes of traits, coming all together in virtue of pleiotropism, developmental solidarity and epigenetic modifications."

Fodor and Palmarini (page 90) write: "... the wasp becomes capable of literally driving the zombified cockroach into her prepared nest. The wasp does not have to physically drag the cockroach into the pit, because it can manipulate the cockroach`s antennae, or literally ride on top of it, steering it as if it were a dog by a leach, or a horse by a bridle. The first sting in the thorax causes a transcient front leg paralysis lasting a few minutes. Some behaviors are blocked but not others. The second sting, several minutes after, is directly in the head." I add that the wasp is as a free-rider that has somehow coopted a deterministic chain!

Fodor and Palmarini write of "The Spandrels of San Marco," and summarize by writing (page 109-110) the following. "We started this chapter by recalling Gould and Lewontin`s insight that a theory of natural selection must somehow allow for the possibility of phenotypic traits that are not adaptations. We think that Gould and Lewontin were entirely right about that, but we think they missed a deeper point: once the character of selection-for problems is properly understood, it becomes apparent that the question that phenotypic free-riding raises cannot be answered within the framework of adaptationist theories of evolution. If that`s right, then adaptationism simply cannot do what an evolutionary theory is supposed to do; explain how phenotypic traits are

distributed in populations of organisms." I note again, what is missing is life`s ability to recognize free-riders by the process of cooption that is now found self-evident.

The authors (page 114) write: "Evolutionary theory purports to account for the distribution of phenotypic traits in populations of organisms; and the explanation is supposed to depend on the connection between phenotypic traits and the fitness of the creatures whose phenotypes they belong to. But as it turns out, when phenotypic traits are (locally or otherwise) coextensive, selection theory cannot distinguish the trait upon which fitness is contingent from the trait that has no effect on fitness (and is merely a free-rider). Advertising to the contrary notwithstanding, natural selection can`t be a general mechanism that connects phenotypic variation with variation in fitness."

They (page 116) write: "For, a theory of evolution must be able to distinguish the causal powers of coextensive traits; and (as far as we know) the causal power of coextensive traits can be distinguished only by appealing to distinctions among counterfactuals; and (as far as we know) only minds are sensitive to distinctions among counterfactuals. " I add, nevertheless, something in life has demonstrated an ability to coopt free-riders and turn them into something useful. Quantum mechanics provides one avenue to evaluate counterfactuals, but this path has been already explored by Goswami (see above link).

The authors go into the question of intentionality and "selection-for." The issues of law and causation become important, but it must be pointed out that science cannot declare a one-way causation to be fundamental. The only things science discovers fundamental are "laws," but on closer inspection these are discovered as two-sided actions; two-sided because the actions are time symmetric and relate to both sending and receiving.

To experiment is to control and setup a precondition to be watched. This is the act of sending. To record the observations that follow is the act of receiving. Therefore, science must act only in the confines of sending and receiving, and the synthesis of sending and receiving now defines information. But as in any synthesis, the middle-term that holds the sender to its receiver is now undeclared, and undefined.

The asymmetrical second law would seem to be a glaring exception to fact that all laws are restricted by the synthetical nature of sending and receiving. But if this law is presented as a universal derived from statistical interactions, then this derivation fails. Such an attempt meets only a fatal equivocation: that which is represented by statistical mechanics is intended to be equal to that which recognizes order and dissipates heat. To represent is to send, to recognize is to receive. The second law is equally two-sided, and is unable to escape the limits in place that are given by the activity of sending and receiving.

Where did this talk of causation come from? Answer: Aristotle! It was Aristotle that introduced material, formal, efficient, and final causes. However, Hume noted that our understanding of causation did not follow from reason, but depended upon experience. In other words, our understanding of causation did not come from science or philosophy, but from something other! It is only that the question of causation can be better vetted in philosophy, than science.

Now returning from my above diversion, we find the punch-line: historical science is significantly limited. I agree with Fodor and Palmarini (page 157) when they write: "Natural history offers not laws of selection but narrative accounts of causal chains that lead to fixation of phenotypic traits. Although laws support counterfactuals, natural histories do not; and, as we`ve repeatedly remarked, it`s counterfactual support on which distinguishing the arches from the spandrels depends." Nevertheless, the laws are two-sided thereby impacting on counterfactuals, and causation comes

from something other! And if there was no causation, there would be no deterministic chains for life to coopt.

Fodor and Palmarini (page 143) note a truism: "The notions of ecology and phenotype are interdefined ... a creature`s phenotype reliably turns out to be in good accord with its ecology." I could postulate the equation to represent this truism: phenotype equals ecology. This, however, is not a fixed "law" as it is understood. Rather, this is a synthetic again, and like the actions that make up the laws of nature, what holds the right-hand side to its left-hand side is a middle-term that is undeclared, and undefined.

To study life`s causation and middle-term, and be on a good philosophical foundation, note that others went this way already:

The Strategy of Life: Teleology and Mechanics in Nineteenth-Century German Biology

References

Jerry A. Fodor & Massimo Piattelli-Palmarini, 2010, *What Darwin Got Wrong.* Farrar, Straus and Giroux.