

Daniel Dennett's Dangerous Idea

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Daniel Dennett's fertile imagination is captivated by the very dangerous idea that the neo-Darwinian theory of biological evolution should become the basis for what amounts to an established state religion of scientific materialism. Dennett takes the scientific part of his thesis from the inner circle of contemporary Darwinian theorists: William Hamilton, John Maynard Smith, George C. Williams, and the brilliant popularizer Richard Dawkins. When Dennett describes the big idea emanating from this circle as dangerous, he does not mean that it is dangerous only to religious fundamentalists. The persons whom he accuses of flinching when faced with the full implications of Darwinism are scientists and philosophers of the highest standing: Noam Chomsky, Roger Penrose, Jerry Fodor, John Searle, and especially Stephen Jay Gould.

Each one of these very secular thinkers supposedly tries, as the simple religious folk do, to limit the all-embracing logic of Darwinism. Dennett describes Darwinism as a "universal acid; it eats through just about every traditional concept and leaves in its wake a revolutionized world-view." One thinker after another has tried unsuccessfully to find some way to contain this universal acid, to protect *something* from its corrosive power. Why? First let's see what the idea is.

Dennett begins the account with John Locke's late seventeenth-century *Essay Concerning Human Understanding*, where Locke answers the question, "Which came first, mind or matter?" Locke's answer was that mind had to come first, because "it is impossible to conceive that ever bare incogitative matter should produce a thinking intelligent Being." David Hume mounted some powerful skeptical arguments against this mind-first principle, but in the end he couldn't come up with a solid alternative.

Darwin did not set out to overturn the mind-first picture of reality, but to do something much more modest: to explain the origin of biological species, and the wonderful adaptations that enable those species to survive and reproduce in diverse ways. The answer Darwin came up with was that these adaptations, which had seemed to be intelligently designed, are actually products of a mindless process called natural selection. Dennett says that what Darwin offered the world, in philosophical terms, was "a scheme for creating Design out of Chaos without the aid of Mind." When the Darwinian outlook became accepted throughout the scientific world, the stage was set for a much broader philosophical revolution. Dennett explains that

Darwin's idea had been born as an answer to questions in biology, but it threatened to leak out, offering answers-- welcome or not--to questions in cosmology (going in one direction) and psychology (going in the other direction). If [the cause of design in biology] could be a mindless, algorithmic process of evolution, why couldn't that whole process itself be the product of evolution, and so forth *all the way down*? And if mindless evolution could account for the breathtakingly clever artifacts of the biosphere, how could the products of our own "real" minds be exempt from an evolutionary explanation? Darwin's idea thus also threatened to spread *all the way up*, dissolving the illusion of our own authorship, our own divine spark of creativity and understanding.

The metaphysical reversal was so complete that it soon became as unthinkable within science to *credit* any biological feature to a designer as it had previously been unthinkable to do without the designer. Whenever seemingly insuperable problems were encountered -- the genetic mechanism, the human mind, the ultimate origin of life -- biologists were confident that a solution of the Darwinian kind would be found. To be sure, the cause of materialist reductionism was sometimes set back by "greedy reductionists" like the behaviorist B.F. Skinner, who tried to explain human behavior as a direct consequence of material forces. The catchy metaphor Dennett employs to describe the difference between the greedy and good kinds of reductionism is "cranes, not skyhooks." The origin of (say) the human mind must be attributed to some process firmly anchored on the solid ground of materialism and natural selection (a crane), and not to a mystery or miracle (skyhook), but this does not mean that human behavior or mental activity can be understood *directly* on the basis of material concepts like stimulus and response or natural selection.

Although many aspects of evolutionary theory remain controversial, Dennett asserts confidently that the overall success of Darwinism-in-principle has been so smashing that the basic program -- all the way up and all the way down -- is established beyond question. Any yet the resistance continues. Some of it comes from religious people, who want to preserve some role for

a creator. Dennett just brushes aside the outright creationists, but takes more pains to refute those who would say that God is the author of the laws of nature, including that marvelous evolutionary process that does all the designing. The Darwinian alternative to a Lawgiver at the beginning of the universe is to postpone the beginning indefinitely by hypothesizing something like an eternal system of evolution at the level of universes.

For example, the physicist Lee Smolin has proposed that black holes are in effect the birthplaces of offspring universes, in which the fundamental physical constants would differ slightly from those in the parent universe. Since those universes that happened to have the most black holes would leave the most "offspring," the basic Darwinian concepts of mutation and differential reproduction could be extended to cosmology. Dennett contends that whether this or any other model is testable, at least cosmic Darwinism relies on the same kind of thinking that has been successful in scientific fields like biology where testing is possible, and that is enough to make it preferable to an alternative that brings in a skyhook. He does not attempt to explain the origin of the cosmic evolutionary process. It's just mutating universes all the way down.

Much of the resistance to Darwinism "all the way up" comes from scientists and philosophers who deny the capacity of natural selection to produce specifically human mental qualities like the capacity for language. Foremost among these is Noam Chomsky, founder of modern linguistics, who describes a complex language program seemingly "hard-wired" into the human brain, which has no real analogy in the animal world and for which there is no very plausible story of step-by-step evolution through adaptive intermediate forms. Chomsky readily accepts evolutionary naturalism in principle, but (supported by Stephen Jay Gould) he regards Darwinian selection as no more than a place holder for a true explanation of the human language capacity which has not yet been found.

To true-believing Darwinists like Richard Dawkins and Daniel Dennett, all such objections are fundamentally misconceived. The more intricately "designed" a feature appears to be, the *more* certain it is to have been constructed by natural selection -- because there is no alternative way of producing design without resorting to impossible skyhooks. Even in the toughest cases, where plausible Darwinian hypotheses are hard to imagine and impossible to confirm, a Darwinian solution simply has to be out there waiting to be found. The alternative to natural selection is either God or chance. The former is outside of science, and also apparently outside the contemplation of Gould or Chomsky; the latter is no solution at all. Once you understand the dimensions of the problem, and the philosophical constraints within which it must be solved, Darwinism is practically true by definition -- regardless of the evidence.

I call this a very interesting situation. Within science the Darwinian viewpoint clearly occupies the high ground, because nobody has come up with an alternative for explaining Design that does not invoke an unacceptable pre-existing Mind. (Dennett easily refutes such hype-induced notions as that a physics of self-organizing systems from the Santa Fe Institute is in the process of replacing Darwinism.) But the rulers of this impregnable citadel are worried because not everybody believes that their citadel is impregnable. They are troubled not only by polls showing that the American public still overwhelmingly favors some version of supernatural creation, but also by the tendency of prominent scientists to accept Darwinism-in-principle, but to dispute the applicability of the theory to specific problems, usually the problems about which they are best qualified to speak.

Dennett thinks that the dissenters either fail to understand the logic of Darwinism or shrink from embracing its full metaphysical implications. I prefer another explanation: Darwinism is a lot stronger as philosophy than it is as empirical science. If you aren't willing to challenge the underlying premise of scientific materialism, you are stuck with Darwinism-in-principle as a creation story until you find something better, and it doesn't seem that there *is* anything better. Once you get past the uncontroversial examples of microevolution, however, such as finch beak variations, peppered moth coloring, and selective breeding, all certainty dissolves in speculation and controversy. Nobody really knows how life originated, where the animal phyla came from, or how natural selection could have produced the qualities of the human mind. Ingenious hypothetical scenarios for the evolution of complex adaptations are presented to the public virtually as fact, but skeptics within science derisively call them "just-so" stories, because they can neither be tested experimentally nor supported by fossil histories.

Many scientists who swear fealty to Darwinism on philosophical grounds put it aside when they get down to scientific practice. A good example is Niles Eldredge, a paleontologist who collaborated with Stephen Jay Gould in the famous papers advocating that evolution proceeds by "punctuated equilibria," meaning long changeless periods which are occasionally interrupted by the abrupt appearance of new forms. "Punk eek" was widely interpreted at first as an implied endorsement of a macromutational alternative to Darwinian gradualism, a misunderstanding that led scornful Darwinists to dismiss the idea as "evolution by jerks," but both Gould and Eldredge insisted that the unseen process of change was Darwinian. Eldredge in particular is so determined to wash away the taint of heresy that he has taken to describing himself as a "knee-jerk neo-Darwinian," a label that seems both to protest too much and to imply a willingness to overlook disconfirming evidence.

On the other hand, Eldredge rejects what he calls "ultra-Darwinism," the position of Dawkins and Dennett, on grounds that obscurely imply rejection of the very factor that makes Darwin's idea dangerous, the claim that natural selection has sufficient creative power to account for design. For example, he writes in his 1994 book *Reinventing Darwin* that ultra-Darwinians are guilty of "physics envy" because they "seek to transform natural selection from a simple form of record keeping... to a more dynamic, active force that molds and shapes organic form as time goes by." Eldredge has no philosophical problem with atheistic materialism; his ambivalence stems entirely from the embarrassingly un-Darwinian fossil record, as described in this typical paragraph:

No wonder paleontologists shied away from evolution for so long. It never seems to happen. Assiduous collecting up cliff faces yields zigzags, minor oscillations, and the very occasional slight accumulation of change--over millions of years, at a rate too slow to account for all the prodigious change that has occurred in evolutionary history. When we do see the introduction of evolutionary novelty, it usually shows up with a bang, and often with no firm evidence that the fossils did not evolve elsewhere! Evolution cannot forever be going on somewhere else. Yet that's how the fossil record has struck many a forlorn paleontologist looking to learn something about evolution.

Whatever is motivating Eldredge to give all that fervent lip-service to Darwinism, it obviously is not anything he has discovered as a paleontologist. In fact the real problem is understood by everyone, although it has to be discussed in guarded terms. What paleontologists fear is not the scientific consequences of disowning Darwinism but the *political* consequences. They fear it might lead to a takeover of government by religious fundamentalists who would shut off the funding.

There are paleontologists who are more supportive of Darwinism than Eldredge, just as there are other eminent scientists who are more explicit in insisting that the neo-Darwinian variety of evolution is valid only at the "micro" level. Regardless of the number or status of the skeptics, the usual scientific practice is to retain a paradigm, however shaky, until somebody provides a better one. I will assume *arguendo* that this "best we've got" policy is justifiable within science itself. The question I want to pursue is whether non-scientists have some legal, moral, or intellectual obligation to accept Darwinism as absolutely true, especially when the theory is encountering so many difficulties with the evidence. The issue comes up in many important contexts; here are two examples.

First, consider the situation of Christian parents, not necessarily fundamentalists, who suspect that the term "evolution" drips with atheistic implications. The whole point of Dennett's thesis is that the parents are dead right about the implications, and that science educators who deny this are either misinformed or lying. Do parents then have a right to protect their children from indoctrination in atheism, and even to insist that the public schools include in the science curriculum a fair review of the arguments *against* the atheistic claim that unintelligent natural processes are our true creator?

Dennett cannot be accused of avoiding the religious liberty issue, or of burying it in tactful circumlocutions. He proposes that theistic religion should continue to exist only in "cultural zoos," and he says this directly to religious parents:

If you insist on teaching your children falsehoods-- that the earth is flat, that "Man" is not a product of evolution by natural selection--then you must expect, at the very least, that those of us who have freedom of speech will feel free to describe your teachings as the spreading of falsehoods, and will attempt to demonstrate this to your children at our earliest opportunity. Our future well-being--the well-being of all of us on the planet--depends on the education of our descendants.

Of course it is not freedom of speech that worries the parents, but the power of atheistic materialists to use public education for indoctrination, while excluding any other view as "religion." If you want to know how such threats sound to Christian parents, try imagining what would happen if some prominent Christian fundamentalist addressed similar language to Jewish parents. Would we think the Jewish parents unreasonable if they interpreted "at the very least" to imply that young children may be forcibly removed from the homes of recalcitrant parents, and that those metaphorical cultural zoos may one day be enclosed by real barbed wire? Strong measures might seem justified if the well-being of everyone on the planet depends upon protecting children from the falsehoods their parents want to tell them.

I will pass over the legal issues raised by this program of forced religious conversion because the intellectual issues are even more interesting. Granted that Darwinism is the reigning paradigm in biology, is there some rule in the academic world which requires non-scientists to accept Darwinian principles when they write about, say, philosophy or ethics? My Berkeley colleague John Searle thinks so. In the first chapter of his recent book on *The Construction of Social Reality*, Searle states that it is necessary "to make some substantive presuppositions about *how the world is in fact* in order that we can even pose the questions we are trying to answer (about how other aspects of reality are socially constructed)." According to Searle, "two features of our

conception of reality are not up for grabs. They are not, so to speak, optional for us as citizens of the late twentieth and early twenty-first century." The two compulsory theories are that the world consists entirely of the entities that physicists call particles, and that living systems (including humans and their minds) evolved by natural selection.

I think that Searle undermines his whole project by virtually ordering his readers not to notice that scientific materialism and Darwinism are themselves socially constructed doctrines rather than objective facts. Scientists assume materialism because they define their enterprise as a search for the best materialist theories, and this culturally-driven methodological choice is not even evidence, let alone proof, that the world really does consist only of particles. As an explanation for design in biology, Darwinism is perfectly secure when it is regarded as a deduction from materialism, but remarkably insecure when it is subjected to empirical testing. Given that what we most respect about science is its fidelity to the principle that empirical testing is what really matters, why should philosophers allow scientists to tell them that they must accept assumptions that don't pass the empirical test?

Searle is a particularly poignant example, because he is famous for defending the independence of the mind against the onslaught of the materialist "strong AI" program, and also for defending traditional academic standards against the corrosive relativism of the fact/value distinction. He is so skillful in argument that he almost holds his own even after leaping gratuitously into a pool of universal acid, but why accept the disadvantage? Searle could seize the high ground if he began by proposing that any true metaphysical theory must account for two essential truths which materialism cannot accommodate: first, that mind is more than matter; and second, that such things as truth, beauty, and goodness really do exist even if most people do not know how to recognize them. Scientific materialists would answer that they proved long ago, or are going to prove at some time in the future, that materialism is true. They are bluffing.

Science is a wonderful thing in its place. Because science is so successful in its own territory, however, scientists and their allied philosophers sometimes get bemused by dreams of world conquest. Paul Feyerabend put it best: "Scientists are not content with running their own playpens in accordance with what they regard as the rules of the scientific method, they want to universalize those rules, they want them to become part of society at large, and they use every means at their disposal -- argument, propaganda, pressure tactics, intimidation, lobbying -- to achieve their aims." Samuel Johnson gave the best answer to this absurd imperialism. "A cow is a very good animal in the field; but we turn her out of a garden."

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