

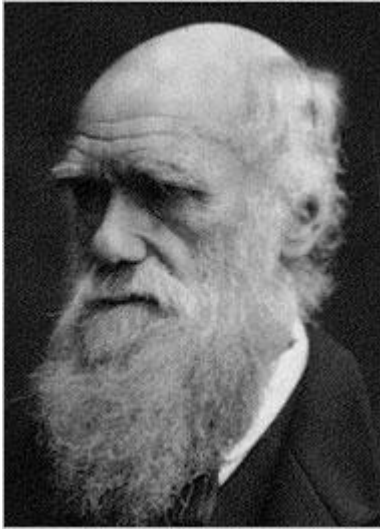
Darwinism Must Die So That Evolution May Live

By CARL SAFINA

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“You care for nothing but shooting, dogs and rat-catching,” Robert Darwin told his son, “and you will be a disgrace to yourself and all your family.” Yet the feckless boy is everywhere. [Charles Darwin](#) gets so much credit, we can’t distinguish evolution from him.



Equating evolution with Charles Darwin ignores 150 years of discoveries, including most of what scientists understand about evolution. Such as: Gregor Mendel’s patterns of heredity (which gave Darwin’s idea of natural selection a mechanism — genetics — by which it could work); the discovery of DNA (which gave genetics a mechanism and lets us see evolutionary lineages); developmental biology (which gives DNA a mechanism); studies documenting evolution in nature (which converted the hypothetical to observable fact); evolution’s role in medicine and disease (bringing immediate relevance to the topic); and more.

By propounding “Darwinism,” even scientists and science writers perpetuate an impression that evolution is about one man, one book, one “theory.” The ninth-century Buddhist master Lin Chi said, “If you meet the Buddha on the road, kill him.” The point is that making a master teacher into a sacred fetish misses the essence of his teaching. So let us now kill Darwin.

That all life is related by common ancestry, and that populations change form over time, are the broad strokes and fine brushwork of evolution. But Darwin was late to the party. His grandfather, and others, believed new species evolved. Farmers and fanciers continually created new plant and animal varieties by selecting who

survived to breed, thus handing Charles Darwin an idea. All Darwin perceived was that selection must work in nature, too.

In 1859, Darwin's perception and evidence became "On the Origin of Species by Means of Natural Selection, or The Preservation of Favored Races in the Struggle for Life." Few realize he published 8 books before and 10 books after "Origin." He wrote seminal books on orchids, insects, barnacles and corals. He figured out how atolls form, and why they're tropical.

Credit Darwin's towering genius. No mind ran so freely, so widely or so freshly over the hills and vales of existence. But there's a limit to how much credit is reasonable. Parking evolution with Charles Darwin overlooks the limits of his time and all subsequent progress.

Science was primitive in Darwin's day. Ships had no engines. Not until 1842, six years after Darwin's Beagle voyage, did [Richard Owen](#) coin the term "dinosaur." Darwin was an adult before scientists began debating whether germs caused disease and whether physicians should clean their instruments. In 1850s London, John Snow fought cholera unaware that bacteria caused it. Not until 1857 did Johann Carl Fuhlrott and Hermann Schaaffhausen announce that unusual bones from the Neander Valley in Germany were perhaps remains of a very old human race. In 1860 Louis Pasteur performed experiments that eventually disproved "spontaneous generation," the idea that life continually arose from nonliving things.

Science has marched on. But evolution can seem uniquely stuck on its founder. We don't call astronomy Copernicism, nor gravity Newtonism. "Darwinism" implies an ideology adhering to one man's dictates, like Marxism. And "isms" (capitalism, Catholicism, racism) are not science. "Darwinism" implies that biological scientists "believe in" Darwin's "theory." It's as if, since 1860, scientists have just ditto-headed Darwin rather than challenging and testing his ideas, or adding vast new knowledge.

Using phrases like "Darwinian selection" or "Darwinian evolution" implies there must be another kind of evolution at work, a process that can be described with another adjective. For instance, "Newtonian physics" distinguishes the mechanical physics Newton explored from subatomic quantum physics. So "Darwinian evolution" raises a question: What's the other evolution?

Into the breach: intelligent design. I am not quite saying Darwinism gave rise to creationism, though the "isms" imply equivalence. But the term "Darwinian" built a stage upon which "intelligent" could share the spotlight.

Charles Darwin didn't invent a belief system. He had an idea, not an ideology. The idea spawned a discipline, not disciples. He spent 20-plus years amassing and assessing the evidence and implications of similar, yet differing, creatures separated in time (fossils) or in space (islands). That's science.

That's why Darwin must go.

Almost everything we understand about evolution came after Darwin, not from him. He knew nothing of heredity or genetics, both crucial to evolution. Evolution wasn't even Darwin's idea.

Darwin's grandfather Erasmus believed life evolved from a single ancestor. "Shall we conjecture that one and the same kind of living filaments is and has been the cause of all organic life?" he wrote in "Zoonomia" in 1794. He just couldn't figure out how.

Charles Darwin was after the how. Thinking about farmers' selective breeding, considering the high mortality of seeds and wild animals, he surmised that natural conditions acted as a filter determining which individuals survived to breed more individuals like themselves. He called this filter "natural selection." What Darwin had to say about evolution basically begins and ends right there. Darwin took the tiniest step beyond common knowledge. Yet because he perceived — correctly — a mechanism by which life diversifies, his insight packed sweeping power.

But he wasn't alone. Darwin had been incubating his thesis for two decades when Alfred Russel Wallace wrote to him from Southeast Asia, independently outlining the same idea. Fearing a scoop, Darwin's colleagues arranged a public presentation crediting both men. It was an idea whose time had come, with or without Darwin.

Darwin penned the magnum opus. Yet there were weaknesses. Individual variation underpinned the idea, but what created variants? Worse, people thought traits of both parents blended in the offspring, so wouldn't a successful trait be diluted out of existence in a few generations? Because Darwin and colleagues were ignorant of genes and the mechanics of inheritance, they couldn't fully understand evolution.

Gregor Mendel, an Austrian monk, discovered that in pea plants inheritance of individual traits followed patterns. Superiors burned his papers posthumously in 1884. Not until Mendel's rediscovered "genetics" met Darwin's natural selection in the "modern synthesis" of the 1920s did science take a giant step toward understanding evolutionary mechanics. Rosalind Franklin, [James Watson](#) and [Francis Crick](#) bestowed the next leap: DNA, the structure and mechanism of variation and inheritance.

Darwin's intellect, humility ("It is always advisable to perceive clearly our ignorance") and prescience astonish more as scientists clarify, in detail he never imagined, how much he got right.

But our understanding of how life works since Darwin won't swim in the public pool of ideas until we kill the cult of Darwinism. Only when we fully acknowledge the subsequent century and a half of value added can we really appreciate both Darwin's genius and the fact that evolution is life's driving force, with or without Darwin.

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