

The Book that Changed America. How Darwin's Theory of Evolution Ignited a Nation

By Randall Fuller. 2017. Viking. 304 pages, 27.00 USD, Cloth.

This is a stimulating history set in the 1860s but still germane today. It centres on the American (USA) reception of Darwin's *Origin of Species*, focussing on one copy of the book and on a small group of New England intellectuals and their enthusiastic embrace of Darwin's careful logic and reliance on empirical evidence (aka facts), a marked contrast to the prevailing transcendental thinking of the time. In the preface, Fuller states, "This book is a biography of the single most important idea of the nineteenth century. It is also an account of issues and concerns that are still with us, including racism ... and the enduring conflict between science and religion". My own biases would claim the theory of natural selection the most important idea ever and that this book reveals other enduring social ills than just racism.

As someone who has read and thought a great deal about evolution and Darwin for several decades, I have found books on these topics often struggle for novelty of ideas. This book achieved novelty for me in that I had never thought of the *Origin* as a weapon in the war against slavery and virulent racism, despite being aware of Darwin's strong abolitionist sentiments (see *Darwin's Sacred Cause*, by Adrian Desmond and James Moore, 2009, Penguin Books). Indeed, I have always thought that the *Origin* could be used to support slavery given the alternate title "The Preservation of Favoured Races in the Struggle for Life". And Fuller allows that such was the case in the USA, but that the real impact was to "disprove" arguments that African slaves were not merely inferior to "whites" but were a separate and inferior species.

By 1859, America was heading for a conflict over slavery with northerners generally becoming more opposed to slavery whereas in the south slavery was becoming more entrenched. Into this developing cauldron Darwin sent the first copy of his book to a Harvard botanist and good friend Asa Gray. Gray championed the book and the theory of natural selection and the book was passed among four other men, the abolitionist Franklin Sanborn, the philosopher Branson Alcott, the naturalist Henry David Thoreau, and the child welfare reformer Charles Loring Brace. In addition, three influential writers were early readers, Louisa May Alcott, Ralph Waldo Emerson, and Frederick Douglass. The responses and activities of these leading abolitionists are a significant part of the book. Fuller makes the claim that the *Origin* was a bombshell that "blasted American intellectual life to pieces" and led to its reconstitution. I am not so sure he makes this case, but he has put together a wonderful portrait of the religious, social, and scientific battles as America headed into the disastrous civil war, whose tensions still, of course, reverberate today.

Focussed as it is on about three years (1859–1862) and this handful of intellectuals, the book shows splendidly how a single powerful idea can infiltrate and transform every part of a culture and, to some extent in

this case, replace its myths with new ones. In this case, the idea was Darwin's brilliant presentation of his theory and the culture was that of pre-civil war America steeped in its beliefs that all species were separately created by a divine being, and that humans were being guided to perfection by this same creator. This culture was being ripped apart by the issue of slavery.

Today, America is writhing in crises engendered by the growing wealth gap and by the continuing discord of rampant sexism and racism, even in our most cherished institutions. But these current battles pale compared to the seething struggle over slavery reflected in the dramatic contrast between the language of the American constitution and the reality of a country built on the brutal institution of slavery. (I won't digress into the systematic extermination of much of the indigenous population nor of the comparatively minor, terrible treatment of various immigrant minorities.) As one reads this historical account, one can't help but drift into thinking about the current chaos in America, or "western" culture for that matter, and wonder if anything has really changed or "progressed" in the century and a half since the publication of the *Origin*.

The central theme of Fuller's account is that the early reception of the *Origin* by the abolitionist forces was enthusiastic, taking it as scientific support for their contention that all "races" were derived from a common origin and were not separate creations, as claimed by many biblical scholars, Christians, and plantation owners. To many abolitionists, the arguments and data in the *Origin* showed that the assessment that black slaves were a lesser, subhuman species was not correct. Fuller expands on this core by recounting the discussion by Gray and the gang of five on the merits of Darwin's theory. Although Fuller includes *Darwin's Sacred Cause* in his bibliography, as far as I can tell he does not mention or refer to it in his text. This is unfortunate because this book makes the argument that Darwin to some extent structured his arguments to reflect his view that slavery and its racist claims were an abomination. I wonder if that bias made the *Origin* more palatable to American abolitionists.

A second theme of the book is that these intellectuals were deeply adherent to the study of nature as a means of revealing the "mind" of the creator and as a guide to how this creator had put humans on a path to "perfection". They pursued these goals by positing "first causes" (i.e., spiritual causes), and as a more mundane matter investigated secondary causes such as physical laws derived from first causes. People often rejected Darwin because he did not address first causes, but instead adhered to clearly empirical, material explanations that could be tested. This approach was attractive to the abolitionists, and they initially overlooked the conflict with their "spiritual" views.

A third theme is that an enthusiastic response to the *Origin* did not extend to all or even most who read it. Many scientists/biologists fulminated against Darwin,

perhaps none more famously than the most notorious scientist of the day, Louis Agassiz, like Gray, a Harvard professor. Agassiz campaigned against Darwin and evolution and wholeheartedly defended the separate creation of species. He had a profound distaste for African-Americans. He and Asa Gray battled in public, and Agassiz travelled extensively seeking support for his views that blacks were inferior to whites in many ways, though he was against slavery. After Agassiz arrived in America to take his chair in Harvard, his scientific research declined in quality as he became more of a public speaker, making claims such as the study of Nature leading to the “free conception of the Almighty Intellect”. Amen!

As the debate over Darwin’s ideas hardened, it began to occur to many of his supporters that there was a problem. Gray and others in their initial fervour managed to ignore the contradiction between their religious views and those of the culture of transcendentalism, versus the meat of Darwin’s main message. Natural selection is a brutal, totally materialistic explanation, not requiring a divine designer, or any other “spiritual” force. This lack of spirit and the apparently accidental nature of human existence, one no different than that of any of the lesser species, drove even the most committed Darwinists to start bending the theory to fit what they had believed before. Fuller even inserts a smidgen of the dispute between Darwin and Alfred Russell Wallace over Darwin’s dismay at Wallace’s embracing “spiritualism” and his refusal to accept that humans were not special creations of a great designer.

This sad state of affairs leads to one of the most interesting parts of the book for me. In reading the comments and writings of the key intellectuals included by Fuller, two things seemed apparent. First, not much appears to have changed since 1860. Yes, we now have much greater support for the theory of evolution by natural selection from all areas of science and, yes, we have greatly expanded the culture of Western liberalism regarding civil rights, universal suffrage, equality of race, gender, ethnicity, sexual preference, etc., but creationism, racism, sexism, misogyny, homophobia, and more continue to exist just under the surface, or even above it, in a significant proportion of citizens. Some of these views are less brutal and visible today. Slavery, for example, is not a cornerstone of modern society, but it is not gone nor is it terribly unlikely that it could arise again.

Perhaps the key conundrum of the 1860s was whether all humans descended from a common ancestor like Adam and Eve, or were they separately created and, if so, did this contradict or support biblical “evidence”? This argument seems comical today, doesn’t it? Second, the battle between science and religion has barely dimmed. Even though much organized religion has declined in America, the beliefs in gods, spirit, miracles, souls, and the search for “meaning” beyond the cold blade of science continue without abatement. Fuller

notes that in his defense of the *Origin*, Asa Gray “suggested” that readers of Darwin had to be open to the possibility that everything they had taken for granted was in fact wrong. That is a difficult possibility to be open to. Fuller states that the tone of Darwin’s book, so reserved, so reasonable, cloaked insights that were explosive and unsettling. Even though many of the early supporters of the theory saw this from the start, it took time for those insights to become problematic. Darwin reduced the importance of humans much as Copernicus and Galileo before him and muddled “our” relationship with God. These threats caused unease and still do.

I was surprised by Fuller’s assessment of the effect of the *Origin* on Henry David Thoreau. Fuller argues that Thoreau read the *Origin* most closely and was changed by it substantially. “The simple fact that animals must consume other animals to survive” upset Thoreau, yet he saw that Darwin provided an explanation for this “murderous subtext”. Competition and struggle influenced the whole economy of nature, created new forms, and was, to use Fuller’s phrase, “the cost of doing business”. Thoreau made a huge shift in thinking, from seeing Nature as a creation meant to serve man’s needs to a view that Nature’s organization was accidental, a product of random and haphazard occurrences. There was no design, no plan, and at the individual level chance prevailed. This perspective could hardly be more different than the prevailing “Christian” view of Nature. Thoreau eventually came to revel in the prodigious capacity of life to adapt and multiply. At this point (p. 144), Fuller inserts the inspiring final paragraph of the *Origin*, “It is interesting to contemplate...”. Eventually, Thoreau, who collected myriads of data on his daily walks, realized he needed to be organized, like Darwin, and he invented a spreadsheet and meticulously on winter days filled it with his unorganized field notes. He became a scientist searching for a grand unifying pattern of life.

Ultimately, Fuller concludes that Darwin’s methodical use of material evidence and hypothesis testing became central to biology, except for those many who could not see the evolution of complex adaptations without the guiding hand of Providence. Loren Eiseley, intellectual heir to Thoreau, summarized the Darwinian view nicely: “We have played roles as amphibians, then reptiles far longer than we have been men. Our identity is a dream” (p. 245). Humans, opined Thoreau, were not products of a divine miracle maker, but a product of lineal descent and geographical distribution. Yet like racism, misogyny, and spiritualism, the divine planner still reigns in the minds of many today.

In summary: I have omitted mention of at least a third of this book. It is filled with stimulating discussion of biology, philosophy, racial issues, and more. It is a great read, don’t pass it up.

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