

Please describe the contribution of the publication *On the Origin of Species*, the social and scientific controversy it caused at the time of its publication, and the nature of the controversy that is still present today.

Perhaps no work of science is so controversial, so scrutinized, and so hotly debated than Charles Darwin's *On the Origin of Species*. To some it is notorious, to others renowned. It rests on simple premises, yet is often horribly misunderstood. It lays the foundation for all modern biology, but is accepted by only 40% of Americans. What Darwin wrote after visiting the Galapagos now echoes in the halls of academia's greatest achievements. However, the opinions he stated, now vindicated by the science he ignited, still bring about enormous controversy 150 years later.

The contributions of Darwin's work are striking in scale. Though far from the first to envision the evolution of species, he established the idea of natural selection as its primary tool. Without knowing anything of DNA, Darwin determined that competition among members of species led to certain individuals gaining a reproductive advantage over others, thus passing their advantageous traits on to the next generation in greater number. Over time these favored traits became the adaptations and, eventually, species of future generations. What Darwin began, others expanded upon, resulting in evolution as the backbone of modern biology. However, his research had serious scientific and social implications, triggering controversies that still exist today.

On the Origin of Species' initial controversy stemmed from both scientific and social sources. At that time there were competing models of how modern organisms came to exist. Though some facts, such as extinction, were agreed upon, Darwin's work challenged the view that the natural world was in stasis. Others believed the Lamarckian idea that species acquired new traits by needing them in their *current* lives, not by natural selection. More problematic was that much of the scientific community was interwoven with the clergy. Though their opinion was far from unified, there was much they could agree to dislike in Darwin's theory. Beyond the obvious point that Darwin differed from the Biblical timeframe on life, he also implied that life could somehow be entirely independent from God. If species came to be merely based on mate selection and chance, must God violate free will to hand-craft his creations? If accepted, these points also force parts of the Bible to be taken metaphorically, a staunch social problem in the 19th century. More important was a clear indication that man might also be the work of evolution. Many people were less than thrilled by this notion, as caricatures from the time of an ape-like Darwin show. Darwin's work must have seemed a direct affront to Christianity, and thus the entire social order. It is this apparent threat to faith that still plagues evolution to this day.

While much of the scientific opinion against Darwin faded in recent times as evidence abounded, there is still great resistance to his theories in the social world. Belief in traditional creationism is increasing, and much of the controversy stems from *On the Origin of Species'* unique qualities. Unlike most scientific works, it represents not only a direct affront to traditionalist religion, but also presents itself in a form easily understood by the public. Evolution has helped spark a modern divide between people of faith and science. Education is often an unfortunate casualty of this debate, as students may feel forced to choose between their beliefs and their knowledge.

Just as it was 150 years ago, *On the Origin of Species* continues to be a source of controversy, despite its enormous scientific value. Though one can hope the distrust of evolution may subside, it must take place through education. The pursuit of empirical truth must override our fear of differing beliefs.