

Extra Feature Story

200 Years Later, Darwin's Theories Still Inspire Science, Economics and Politics

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On the 200th birthday of the famous and often controversial biologist Charles Darwin, his ground-breaking work on the origins of the human race still reverberates in the worlds of science, economics, politics and religion.

Darwin's 1859 masterpiece, "On the Origin of Species," provided an explanation for the similarities between all of earth's organisms, arguing that all living things come from a shared ancestor. From that ancestor, species evolved over millions of years through a process called "natural selection," in which they inherit traits favorable to their existence.

At the time of its publication, Darwin's book was considered radical because his theories contradicted the biblical belief that God created man in six days. To this day, some people continue to challenge Darwin's basic premise that human beings evolved from other animals, specifically apes.

Natural selection

After observing living creatures in their natural environments and 20 years of careful study, Darwin concluded -- without any modern understanding of genetics or DNA -- that there were many differences among earth's species and that many of those traits were inherited from one generation to another.

Natural selection ensures organisms with certain physical traits that protect them in their environment will survive and produce more offspring. Organisms that lack the appropriate traits will ultimately die off.

This belief that human beings will adapt to their environment has since permeated every aspect of modern culture. The concept of natural selection, sometimes described as "survival of the fittest," has been used to explain the way humans behave across a variety of subjects, from engaging in war, to creating successful businesses, to falling in love.

The 'tree of life'

Darwin imagined that organisms were linked together in a great "tree of life," in which the characteristics of younger species share a common heritage with an older species.

This understanding is still relevant to modern scientists who use the metaphor of the evolutionary tree to track the spread of disease, and map out the history of the human race by looking at DNA patterns.

In fact, DNA maps may soon enable biologists to show exactly how all of Earth's species are interrelated, the New York Times reported.

Controversies

When first published, Darwin's work on evolution conflicted with the religious principal that God created the earth and that mankind descended from Adam and Eve, often called Creationism.

Many of Darwin's theories are still controversial as scientists, religious leaders, and political figures disagree on how evolution should be understood and taught.

While most scientists accept evolutionary theory as the basis for understanding life on earth, some religious communities have adopted the concept of "intelligent design," which argues that only a higher power or God could have created such an incredibly complex system of biological life.

Many who don't believe in evolution argue that it should not be taught as scientific fact in public schools. They say that creationism or intelligent design should be presented as factual alternatives to evolution.

Several court cases over the past decade have brought the subject of evolution to the national political stage. In March of 2009, for example, the Texas Board of Education will vote on how evolution should be taught to Texan students.

Americans and evolution

In fact, a large number of Americans do not believe in Darwin's theory of evolution despite its prevalence in American culture. A recent Gallup poll showed that while 39 percent of the nation believes in evolution, about 25 percent does not, and 36 percent do not have any opinion at all.

According to the Gallup poll, religious people are less likely to agree with Darwin's theories while Americans with more education are more likely to believe in evolution.

-- Compiled by Kate Stanton for NewsHour Extra

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