

CHARLES ROBERT DARWIN: 200 YEARS OLD

Dear Sir,

February 12, 2009 is the 200th birthday of Charles Robert Darwin. Darwin was born in Shrewsbury, England, 200 years ago in February and was the fifth child of Robert Waring Darwin and Susannah Wedgewood. The achievements of Darwin are well known, yet controversy surrounding his work exists even today. Most consider Darwin in relation to the discovery of the subject called Evolution, but his contributions go much further than just this topic.

Today, his concepts can be said to encompass many, if not all, areas of science. Some of the greatest impacts of this scientist are those that he made towards medicine. What many do not know is that Darwin was a medical school dropout.⁽¹⁾ Darwin originally attended Edinburgh University to study medicine, but dropped out after about a two-year period. Later, he enrolled in Christ's College at Cambridge to pursue the clergy. At this time, he began receiving "formal" training in the natural sciences. It would not be long before this training would be put to good use. After Cambridge and some discussion with his father, Darwin began his famous voyage around the world on the H.M.S. Beagle. For some, this may have been the most important trip ever made. During this trip, he formulated and, in many ways, finalised his concepts of evolution and natural selection. One question that I have often asked is where on his voyage did he first realise the concept of natural selection? At a moment on his trip, possibly looking at fossils high in the Andes, the fundamentals of this concept came to him. Certainly, these ideas were not new, but have been fermenting over many years and even generations. His grandfather, Erasmus Darwin, had raised these concepts and likely provided some of the initial thought to Darwin.

It took Darwin 20 years after his voyage to publish his theories. It actually required prompting from his good friend, Alfred Russell Wallace, for publication to actually occur. Most do not know that the initial work was a joint publication of Darwin and Wallace to the Linnaean Society in 1858 and was entitled, "On Tendency of Species to form Varieties; and on the Perpetuation of Varieties and Species by Natural Means of Selection". What is even less known is that Darwin and Wallace were very good friends. In 1859, the book on "Origin of Species" was published and was sold out immediately.

From a historical point of view, Darwin may be the most, or at least one of the most, famous scientists that has ever lived.⁽²⁾ One of the reasons for being placed on the top of this list is as a result of his concepts which are still being discussed today, although sometimes in a more modern light – neo-Darwinism. However, what is of even greater importance is that his ideas are still in practice today, and in many ways, are constantly being relearned, especially in medicine. The mechanism by which antibiotic resistance arises is now explained through neo-Darwinism and goes to the heart of natural selection as initially described by Darwin and Wallace. His ideas for medicine do not stop here, but can be expanded to almost any discipline or sub-discipline, even in explaining the occurrence of heart disease and cancer. With the current revolution in molecular genetics, Darwin's findings are now being expanded to areas such as epigenetics.

Much of the mystery regarding natural selection and the concept of evolution is still unknown. However, it is clear that this concept is much larger than probably even Darwin imagined, especially when examined through molecular and microbial genetics. The contribution by Darwin to medicine has been enormous and in many ways can be said to be one of the cornerstones, maybe even a keystone, of medicine. As stated previously in this journal, not bad for a medical school dropout.⁽³⁾ On February 12, 2009, there will be numerous acknowledgements of the accomplishments of this man. It is likely that controversy and reference to Darwin will exist until the end of mankind. However, it is clear that without his discovery, science and medicine would be lacking. I wish you, Mr Darwin, a happy 200th birthday and concede that you did a fairly good job for what most at the time consider an amateur scientist. May we all learn from and expand on your good work. Happy birthday Charles Robert Darwin.


Yours sincerely,

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