

Erasmus Darwin Biography

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Biography

Erasmus Darwin was an English physician who had a significant influence on the development of theories of evolution. In particular, he helped to initiate the idea that traits developed by an organism during its life could somehow be passed on to its offspring. This idea was explained in Darwin's book *Zoonomia, or The Laws of Organic Life*, which was published in 1794-1796. The idea was later expanded upon as "the inheritance of acquired traits" by the French naturalist Chevalier de Lamarck (1744-1829), who has become much more strongly identified with the idea than Erasmus Darwin.

However, few modern biologists believe that acquired traits can, in fact, be inherited by organisms. It is well known that individual organisms may display variable anatomical, biochemical, or behavioral traits as they develop through life (that is, their expressed phenotype). For example, a plant well supplied with nutrients, moisture, and light will be larger and more robust than if that same plant did not experience those relatively beneficial conditions. Such variable developmental possibilities are now known to be due to differing expressions of the fixed genetic potential of individual organisms (or their genotype; this refers to the specific qualities of their genetic material, or DNA [deoxyribonucleic acid]). Modern biologists refer to this variable expression of the genetic potential of organisms, as influenced by the environmental regime they encounter during development, as "phenotypic plasticity." In the times of Erasmus Darwin, Lamarck, and even Charles Darwin (see below), it was thought that these variably expressed (or acquired) traits could somehow become fixed into the genetic make-up of an organism and its offspring, but this is now known to not be possible.

Erasmus Darwin was also the grandfather of Charles Darwin (1809-1882), one of the most famous naturalists of all time. Charles Darwin is best known for his theory of the role of natural selection in driving evolutionary change, published in 1859 in his famous book, *On the Origin of Species*.