

Human Evolution Continues Apace - Possibly at a Quicker Rate than Ever Before

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Short Communication

Because of modern medicine's ability to keep us alive, it's easy to believe that human evolution has come to a halt. By keeping some individuals alive longer and increasing their chances of passing on their genes, better healthcare disturbs a crucial driving force of evolution. However, if we look at the rate at which our DNA evolves, we can discover that human evolution hasn't slowed down - in fact, it may be speeding up. Evolution is the process of a species' DNA changing over many generations. Natural selection can occur when specific features resulting from genetic mutations aid an organism's survival or reproduction. As a result, such mutations are more likely to be handed down to future generations, increasing their prevalence in a population. These mutations and their accompanying features gradually grow more widespread across the entire group [1].

We can detect evidence that natural selection has recently made modifications and continues to do so by looking at global studies of human DNA. Despite the fact that modern healthcare eliminates many causes of death, populations in nations without adequate healthcare continue to evolve. Natural selection is pushed by survivors of infectious illness outbreaks who pass on their genetic resistance to their children. Our DNA reveals indications of recent selection for illness resistance, such as Lassa fever and malaria. Malaria selection is still going on in areas where the disease is still prevalent [2].

Humans, too, are adjusting to their surroundings. Humans with mutations that allow them to thrive at high altitudes have become more widespread in Tibet, Ethiopia, and the Andes. In the last 3,000 years, the spread of genetic mutations in Tibet has been the fastest evolutionary change in mankind. This quick increase in the frequency of a mutant gene that increases blood oxygen concentration provides a survival advantage to people at higher altitudes, resulting in more offspring surviving. Adaptations can also be found in the diet. Inuit DNA reveals a recent adaptation that permits them to thrive on their fat-rich Arctic mammalian diet. Natural selection favouring

a mutation that allows adults to make lactase - the enzyme that breaks down milk sugars - is also why some people can digest milk after weaning, according to studies. Over 80% of north-western Europeans can, although lactose intolerance is widespread in East Asia, where milk is consumed in much smaller quantities. Selection to digest milk has evolved multiple times in humans, similar to high altitude adaptation, and may be the greatest type of recent selection [3,4].

The pace of human mutation may also be shifting. The cell division mechanism that produces sperm cells is the primary source of mutations in human DNA. The more a man gets older, the more mutations he has in his sperm. As a result, if their contribution to the gene pool shifts - for example, if men postpone having children - the mutation rate shifts as well. This determines the neutral evolution rate. The fact that evolution does not occur solely through natural selection indicates that the process is unlikely to come to an end any time soon. Liberating our genomes from natural selection pressures merely exposes them to other evolutionary processes, making it much more difficult to predict what future humans will look like. It is, nonetheless, quite polite. However, it's possible that, even with modern medicine's safeguards, future generations will face greater genetic issues [5].

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