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The role of the intestinal flora in digesting lactose explains in part the current trend of milk products treated with lactase or enriched with bacteria - such as *Bifidobacterium* or *Lactobacillus* - which populate our intestinal tract on a natural basis anyway. Despite their success, the benefits of fermented milk and bifidus yoghurt, for example, remain controversial.

Charles Darwin (1809-1882) never got the chance to taste such products which could well have lessened his unremitting physiological ailments. For the best part of forty years, the father of the theory of evolution suffered from symptoms which, today, scientists believe to be characteristic of lactose intolerance. Though many a doctor rushed to the famous naturalist’s side and numerous diets and types of medicine were tried out - not to mention many visits to various spas for hydrotherapy - not one could find what was wrong with the great man. In those days, lactose intolerance was unheard of, although Hippocrates had already described similar disorders 2000 years ago.

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Many scientists have tried to pin down the origin of Darwin's constant complaints, and lactose intolerance is one of the latest findings. Researchers have spent hours delving into the naturalist's diary where he painstakingly marked down his own observations in an attempt to understand himself where his troubles came from. Some have suggested that his disorders were probably psychosomatic, while others believe that Darwin could have suffered from heart disease, an intestinal ulcer or some kind of allergy.

Fig.2 Caricature of Charles Darwin published on 22nd March 1871 in the satirical magazine, The Hornet.

Throughout his life, Darwin's health had always been fragile. Other members of his family were also of frail constitution and some of his own children seemed to be afflicted with the same troubles. If Darwin had suffered from lactose intolerance, and if he suffered from a hereditary form...it could explain the appearance of the same problems in different generations of the Darwin family. It is a possibility. However, the existence of a genetic factor in lactose intolerance is still not clearly understood. But scientists are becoming aware of a surprising phenomenon: some adults continue to produce lactase - resulting from genetic changes observed in Northern Europe - but they are also more sensitive to a fleeting intolerance to lactose in the event of stress or intestinal infection. Could this have been the case for Darwin? Was he the carrier of such genetic variations? The answer lies in his DNA...which would mean that scientists would have to be able to get hold of some of his hair or a bit of his skin...

Rough times...

Throughout his life, Darwin's chaotic health hampered with his research and kept him away - no doubt much to his relief - from the inflamed discussions around his theory of evolution which was published in 1859 in The Origin of Species. Many of his detractors believed that he was just finding excuses to shun criticism. Confined to his house, he wasn't even able to attend the legendary 1860 debate in Oxford. This debate confronted the Bishop of Oxford Samuel Wilberforce with Darwin's most ardent defendant, Thomas Huxley, during which Wilberforce is said to have asked Huxley whether he descended from a gorilla on his father's side or his mother's side. Huxley famously replied that he "would rather be descended from an ape than from a cultivated man who used his gifts of culture and eloquence in the service of prejudice and falsehood".

The concept of organisms which are transformed with the passing of time was not new. It had already germinated in the minds of the learned as far back as the 3rd century AD and reappeared in the 18th century - when Darwin's own grandfather outlined it in verse, no less. But like all novel concepts - especially those which counter fundamental beliefs - it needed mature minds and a grandson to suggest a mechanism which met with educated and receptive ears. However, because of the questions the theory raises on the origins of humankind, it is hardly surprising that it still meets with much religious opposition despite its recognition by scientists worldwide.

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On love and milk

Mammals feed their progeny. From birth to the time of weaning, their young ones suck the mother's milk...along with its sugar, lactose. Human milk is very sweet - almost 7% of it is made up of lactose. Cow milk, for instance, only contains about 5%. Besides lending an agreeable taste to milk, lactose is also one of the tiniest wonders of nature. Once absorbed and digested, it supplies the growing body with a significant source of energy and is important for brain development.

Despite these advantages, 70% of the world's population progressively lose their faculty to digest lactose. For many, the change goes unnoticed while for others, consuming milk products can turn digestion into an intestinal nightmare. Stomach aches, bloated bellies, flatulence and diarrhea haunt the process of digestion - otherwise known as lactose intolerance. So how is it that what is such an essential sugar during our childhood can cause such food disturbances later on in life?

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Lactose is normally digested in the small intestine by way of the cells which line its interior, and whose membranes carry the lactase enzyme. Lactase, consequently, is in direct contact with food. When the enzyme binds a lactose molecule, it slices it into two smaller sugars - glucose and galactose. The glucose is subsequently 'burned' to produce energy and the galactose is integrated
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