

## **A letter that changed history**

*In the text, Wallace revealed his ideas to his idol Charles Darwin  
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*Translated by Ana Isabel Nunes from the Brazilian article 'Uma Carta que mudou a história' from 'O Estado de São Paulo', Sunday 29<sup>th</sup> June 2008*

Alfred Russel Wallace discovered natural selection during an outbreak of malaria fever in the Moluccas (Indonesia), in February 1858. He had already thought about the origin of species for many years, but the piece that was missing in the puzzle - the basic mechanism of evolution - only came to him at that moment. Wallace waited till his temperature dropped and when possible he grabbed some paper to record his theory. Following this, he made the decision that would change his life and biology forever.

Without knowing that Darwin was working on exactly the same idea, Wallace sent him the manuscript of his discovery. Wallace admired Darwin and had already exchanged eulogising correspondence about his first work in the Malayan archipelago. The manuscript was accompanied with a personal letter in which he pleaded with Darwin to assess the merit of the theory and if possible, pass the text on to Charles Lyell, one of the most influential scientists of the era. On receiving the letter, Darwin despaired. For 20 years he had worked secretly on the same theory, accumulating evidence and studies for the moment of publication as one big piece of work. Now, all the glory would pass to Wallace.

'In science, what matters is publication' says George Beccaloni of the NHM. 'It doesn't matter that Darwin had already been working on the theory for 20 years; the credit of the discovery would go to who published it first.'

'Darwin was living the worst of scientific nightmares; the loss of precedence' says researcher Andrew Berry, professor of evolutionary biology of Harvard University.

The theories were practically identical. 'So all my originality, whatever it may amount to, will be smashed' wrote Darwin to Lyell, his friend and confidant. 'I never saw a more striking coincidence'.

The letter to Lyell written on the 18th of June 1858, is the first piece of evidence that Darwin had received the text from Wallace. The exact day that the correspondence was received is not known. The letter and the original manuscripts of Wallace disappeared – a fact that has fed various conspiracy theories. There are some that believe that Darwin received the letter and essay weeks before but kept it quiet, which gave him time to 'steal' some of Wallace's ideas.

### *Simultaneous announcement*

What took place was orchestrated by Lyell and Joseph Hooker (another friend of Darwin's and an influential scientist too), that both sets of research would be presented simultaneously to the Linnean society of London. It was such that on the 1<sup>st</sup> of July of 1858, the theories of Darwin and Wallace were first read publicly. Neither of the

authors was present. Darwin was at home, mourning the loss of his youngest son, killed by scarlet fever two days before. Wallace was on the other side of the world, in New Guinea, having no idea what was going on back home. There was no telephone, the post took 3-4 months to get to him.

Darwin replied to Wallace on the 13<sup>th</sup> of July 1858, with a letter from Hooker explaining what happened at the Linnean society. Those letters were never found, not even the reply of Wallace to Darwin. 'All we have is the reply of Wallace to Hooker, written on the 6<sup>th</sup> of October 1858' says George Beccaloni. 'It is very strange that the most important correspondence went missing'.

Beccaloni doesn't believe that Darwin plagiarised Wallace's work. 'There is no evidence for that'. However, he thinks that Wallace should have been consulted on the reading of the research. 'I think he wouldn't have agreed'

If Wallace felt swindled/cheated, he never expressed that sentiment. On the contrary all his letters and conversations on Darwin were always eulogising to Darwin, Hooker and Lyell. Wallace recognised the pioneering work of Darwin and felt honoured to have his research presented alongside that of such an important scientist.

Historical documents confirm that Darwin had completed his theory in 1858 according to Janet Browne, historian at Harvard and biographer of Darwin. 'Wallace didn't tell Darwin anything he did not already know'.

### *Objectivity*

Wallace's manuscript impresses through its clarity and objectivity. In a few pages, he synthesised brilliantly that what Darwin planned to explain in an encyclopedia.

Wallace, like Darwin, understood that the individuals of a species are not identical- each animal or plant is a little different from the other (we know today that this is due to genetic factors, but this wasn't known about then).

In some cases, this variation- the stronger tail of a monkey to hang on to a branch, the longer tongue of a frog to catch a fly, a more brightly coloured flower to attract the attention of a pollinator are beneficial. Consequently, these individuals having these specific variations will outlive and reproduce more, and in the meantime the weaker individuals are gradually exterminated.

'It's like we distinguished ourselves from the start', a 'fight to outlive', in which the weakest and less perfectly organised always succumb' wrote Wallace. This is the principle of natural selection. The publication of the theories caught the attention of specialists from the start. But natural selection only turned into a cultural and scientific phenomenon after the publication of 'On the Origin of Species' in November 1859, in which Darwin described in 500 pages his research of 20 years. Wallace was also recognised as a great scientist of his age, but he was soon forgotten about after his death in 1913. Anyway, he's the 'father' of natural selection as much as Darwin! If he had sent his manuscripts directly to a scientific publisher, history may have been different. As says Andrew Berry, 'Darwin might have woken up one day and discovered that he

had been beaten by a collector of insects, stuck somewhere in the Moluccan islands'. Wallace would be Darwin, and Darwin would be Wallace.