

The overlooked third man

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The horticulturist who came up with the concept of 'evolution by natural selection' 27 years before Charles Darwin did should be more widely acknowledged for his contribution, states a new paper by a King's College London geneticist.

The paper, published in the *Biological Journal of the Linnean Society*, argues that Patrick Matthew deserves to be considered alongside Charles Darwin and Alfred Russel Wallace as one of the three originators of the idea of large-scale evolution by [natural selection](#).

Furthermore, Matthew's version of evolution by natural selection captures a valuable aspect of the theory that isn't so clear in Darwin's version - namely, that natural selection is a deductive certainty more akin to a 'law' than a hypothesis or theory to be tested.

Patrick Matthew (1790-1874) was a Scottish landowner with a keen interest in politics and agronomy. He established extensive orchards of apples and pears on his estate at Gourdie Hill, Perthshire, and became adept in horticulture, silviculture and agriculture.

Whilst Darwin and Wallace's 1858 paper to the Linnean Society, *On the Origin of Species*, secured their place in the history books, Matthews had set out similar ideas 27 years earlier in his book *On Naval Timber and Arboriculture*. The

book, published in 1831, addressed best practices for the cultivation of trees for shipbuilding, but also expanded on his concept of natural selection.

"There is a law universal in nature, tending to render every reproductive being the best possibly suited to its condition that its kind, or that organized matter, is susceptible of, which appears intended to model the physical and mental or instinctive powers, to their highest perfection, and to continue them so. This law sustains the lion in his strength, the hare in her swiftness, and the fox in his wiles." (Matthew, 1831: 364)

In 1860, Matthew wrote to point out the parallels with his prior work, several months after the publication of *On the origin of species*. Darwin publically wrote in 1860 "I freely acknowledge that Mr. Matthew has anticipated by many years the explanation which I have offered of the origin of species", while Wallace wrote publically in 1879 of "how fully and clearly Mr. Matthew apprehended the theory of natural selection, as well as the existence of more obscure laws of evolution, many years in advance of Mr. Darwin and myself", and further declared Matthew to be "one of the most original thinkers of the first half of the 19th century". However, both asserted their formulations were independent of Matthew's.

Even if Matthew did not influence Darwin and Wallace, his writings provide a valuable third point of reference on the notion of macroevolution by natural selection, argues the paper's author, Dr Michael Weale. Dr Weale has created a public [website](#) to act as an online repository of the writings by Patrick Matthew, including some of his lesser-known work.

Dr Michael Weale, from the Department of Medical and Molecular Genetics at King's College London, said: 'Whilst Darwin and Wallace both deserve recognition for their work, Matthew, the outsider who deduced his idea as part of a grand scheme of a purposeful universe, is the overlooked third man in the story. Matthew's story is an object lesson in

the perils of low-impact publishing. Despite its brevity, and to some extent because of it, Matthew's work merits our renewed attention.'

More information: 'Patrick Matthew's Law of Natural Selection' by Michael Weale is published in the *Biological Journal of the Linnean Society* and can be accessed [here](#).

Provided by King's College London

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