

‘The Tangled Tree’: Book explores what’s wrong with Darwin’s theory of evolution

Until recently, the central tenets of [Darwin's theory of evolution](#), from how heredity works to the gradual variation in species, had been regarded as settled and beyond challenge. But as David Quammen, a National Geographic contributing writer, explains in his new book [The Tangled Tree](#), new discoveries in human biology in the last few decades have led scientists to radically alter the story of the [origins of life](#).

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[NG:] One of the key concepts you explore is “[horizontal gene transfer](#).” Give us a layman’s explanation of what this is.

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[Quammen:] Horizontal gene transfer is essentially sideways heredity. It’s the passage of genetic material sideways, from one creature into another, from one species into another. It can even go from one kingdom of life into another, sideways, across great barriers. That was thought to be undoable.

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[NG:] Explain the issues and how the latest science is rewriting the idea of natural selection. [Quammen:] It’s not rewriting the idea of natural selection. Rather, it’s rewriting our understanding of evolution, of which natural selection is still a very important part.

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What is new, and caused New Scientist to run that over-stated and provocative headline, “Darwin Was Wrong,” is that we now understand there is another, hugely significant form of variation. It’s not just incremental mutation, but horizontal gene transfer, bringing entirely new packages of DNA into genomes.

Read full, original post: [What Darwin Didn’t Know About Evolution](#)