

Tall tales and tortoises

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ABSTRACT

From Isaac Newton's apple to Charles Darwin, the history of science is littered with myths and half-truths. They persist because people are so keen to believe them, and because they fill a need for narrative. Analyzing this situation, Nicholls comments that such myths might actually be something to encourage, because communicating a version of history is better than communicating no history at all.

FULL TEXT

Headnote

From Newton's apple to Darwin's finches, the history of science is littered with myths and half-truths. Should we care, asks Henry Nicholls

I WAS saddened to hear of the death last month of Harriet, the giant tortoise that Charles Darwin reputedly collected from the Galapagos Islands in 1835. She died in the Australia Zoo in Beerwah, Queensland, where she spent the last two decades of her allegedly very long life. Don't get me wrong, I wasn't mourning the tortoise. What distressed me was that the news of her death would give the world's media another opportunity to meddle with the history of science.

I have just published a book about another famous Galapagos giant tortoise called Lonesome George, and I was intrigued by the tale of his compatriot. It was pretty clear to me that the story encouraged by Harriet's custodians, that she was the oldest known living animal and one of four giant tortoises that lived alongside Darwin on HMS Beagle, was bogus. Yet this legend has clung to her since the mid-1990s like a stubborn moss to her shell. Surely, I thought, the truth must be exposed. But then it got me thinking: perhaps there's another way of looking at these things.

How did the Harriet story arise? The historical record is rather like the fossil record: open to interpretation and often with vast gaps, such as lost letters and missing manuscripts, that leave plenty of room for fiction. A flood in 1893 is said to have washed away records at the Brisbane Botanic Gardens that could have shed light on how the tortoise came to be in the institution's small zoo, where she lived until 1952. In the absence of this crucial information, her relationship with the world's most celebrated naturalist flourished.

There have been plenty of opportunities to debunk it. In the late 1990s, tests on Harriet's DNA revealed that she came from Santa Cruz, a Galapagos island that was not on the Beagle's itinerary, casting considerable doubt on the idea that she shared a cabin with Darwin. A couple of years later micro-palaeontologist and science writer Paul Chambers questioned the popular suggestion that, after the Beagle had returned to England, Harriet hitched a ride to Australia with John Wickham, a shipmate of Darwin (New Scientist, 11 September 2004, p 38).

Harriet's owners were unperturbed by all this. Last year, they celebrated the reptile's "175th" birthday. The world's media lapped it up. Yes, she probably was old, even by the standards of giant tortoises, but settling on 175 was little more than an ill-informed guess, based mainly on the far-fetched assumption that she was on the Beagle. Some have argued that 175 years is a fair estimate of her age because her DNA suggests she pre-dates a large cull of Santa Cruz tortoises that took place in the mid-19th century, but geneticists say it would take extensive sampling to verify this. Such doubts over Harriet's age and provenance are not what the hundreds of thousands of people that have flocked to see her will want to hear, but I fear they have been misled.

This saga made me think of other stories in the history of science that are but shadows of the truth. There are

plenty: Newton getting intellectual inspiration from a falling apple, Galileo toying with cannonballs in Pisa, Archimedes leaping from his bath. Once established they are hard to dislodge, even when real evidence comes to light that exposes them for the fables they are.

For example, more than 20 years ago research by Frank Sulloway, a historian of science now at the University of California, Berkeley, should have shattered the popular belief that Darwin experienced some kind of eureka moment in the Galapagos-that he entered the archipelago a God-fearing creationist and left it praising the power of natural selection. Sulloway showed that it was not until the Beagle was well on its way to Tahiti, some eight months after leaving the Galapagos, that Darwin made his first explicit reference to the theory that would make his name. Yet no one but historians of science acknowledge this.

There's more. The widely held belief that Darwin's inspiration for natural selection came from studying the Galapagos finches - an idea perpetuated by their nickname "Darwin's finches" is way short of the mark. The great man made almost no mention of these iconic birds in his voluminous writings. Indeed, University of Cambridge historian of science John van Wyhe has shown that the first time the words "Darwin" and "finches" appeared alongside each other in print was in 1935, exactly a century after the Beagle steered its course through the Galapagos. Will the myth ever be written out of the textbooks? Unlikely.

Inaccurate histories of science are all around us. This leaves me with what may sound like a surprising question: does it matter? They persist because people are so keen to believe them, and because they fill a need for narrative. I doubt whether Harriet and Darwin will ever be separated, since the alternative version is not half as exciting and would have no chance of living on in the popular consciousness. Indeed, such myths might actually be something to encourage. Communicating a version of history is better than communicating no history at all.

Sidebar

"The legend that the tortoise lived alongside Darwin has clung to her like a stubborn moss to her shell"

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