

NUS science historian tracks evolution of Darwin's library

The vast, diverse collections rebuilt virtually include tomes, quirky items

Shabana Begum

An infamous book called *Das Kapital* by German philosopher Karl Marx and conspiracy theories linked to the lost city of Atlantis were among 13,000 tomes and publications that the father of evolution Charles Darwin kept in his personal library.

He did not just fixate on science and biology, but also had interests in farming, artwork and caricatures of himself.

These facts about the renowned British naturalist, who was born in 1809 and died in 1882, were unveiled by a National University of Singapore (NUS) science historian, who over 18 years painstakingly tracked down Darwin's collections and rebuilt them virtually.

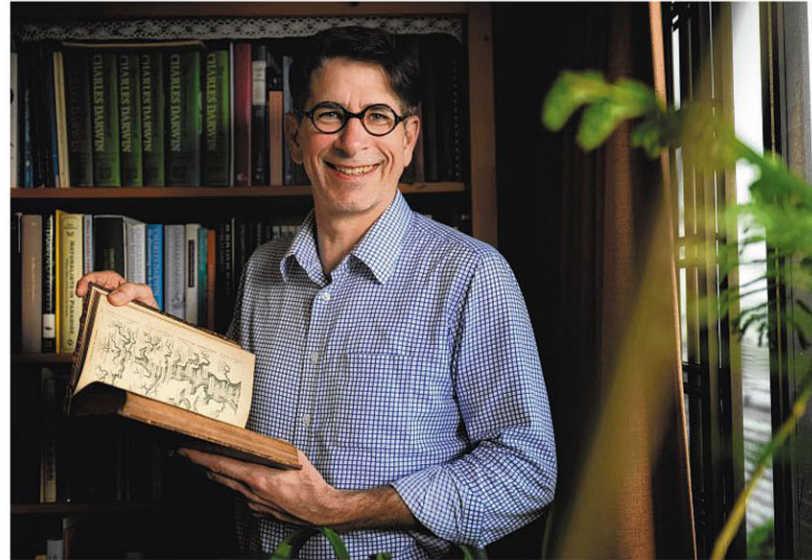
By mid-February, Dr John van Wyhe from the Department of Biological Sciences had what he believes to be the largest Darwin resource in the world, and possibly the most comprehensive website on any historical person in Darwin Online. ST PHOTO: CHONG JUN LIANG

Scholars had long believed that Darwin's library comprised about 1,480 books that were preserved at the University of Cambridge and his home, Down House, in England. But this turned out to be only 15 per cent of his library, said Dr van Wyhe.

The other 85 per cent were mostly lost and dispersed. Over nearly two decades, he and his team, including students, patiently sleuthed through historical catalogues, obscure references and private collections to tease out the repertoire that Darwin read and drew his own research from.

Gradually, the 1,480 books grew to 13,000 volumes and items, including rare books, letters, scientific pamphlets and newspaper clippings.

The backbone of the digital anthology is a 300-page catalogue



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listing nearly all those long-lost publications, with 9,700 links. Of the 9,700 links, more than 5,000 are in Darwin Online, including 851 transcribed texts and notes.

Dr van Wyhe said: "If there was one thing I had to say about Darwin's library, apart from it being big, is how astonishingly diverse it is... It's really intimidating that someone could put together such an impressive library."

The earliest of Darwin's books recorded is from his time as a schoolboy at Shrewsbury School in England. Dated 1818, it is a textbook on modern and ancient geography written by the school's headmaster.

Darwin is most well known for developing the theory of evolution by natural selection. This means that living things that are more adapted to their environment or "fitter" are more likely to survive.

This theory was laid out in his landmark publication, *On The Origin Of Species*, published in 1859.

The Darwin Online project started in 2006 with mainly the natu-

ralist's own publications put up on the website. Over the next 18 years, Dr van Wyhe found several clues that he zeroed in on to find nearly everything else on the scientist's bookshelves. "That was thousands of detective stories," added the 52-year-old.

A major source that helped Dr van Wyhe uncover the library is an untapped 426-page catalogue of Darwin's collections that was prepared for the naturalist in 1875. More than 400 missing titles were found in the handwritten catalogue, which was hidden in the University of Cambridge.

Many of the entries were tricky to identify because the book titles were abbreviated. At other times, he had to decipher unclear handwriting.

He added: "(His library) opens up to us, modern people, a window on how sophisticated the sciences already were back then."

Gathering Darwin's scientific tomes was academically intriguing, but what thrilled Dr van Wyhe were the quirky items that popped

up now and then.

He recently found an article about dewclaws – extra toes that sit higher up on some dogs' paws.

"The person who wrote this thought that (the dewclaws) were evidence of dogs' evolutionary past. And he sent that to Darwin."

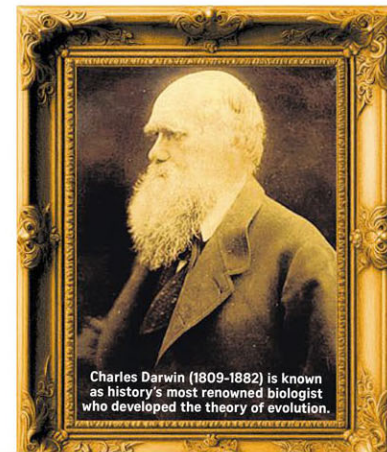
Dr van Wyhe added that some people loved to send their conspiracy theories to Darwin, such as a Minnesota politician who wrote a book claiming that Atlantis was real.

With Darwin's library immortalised online, Dr van Wyhe said: "When you learn about the history of science, it teaches you about science in a way that modern science cannot do."

"The beginnings of your science can give you radically new perspectives and reveal things that you were unaware of because you didn't take a broader perspective."

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• Darwin Online can be accessed for free at <https://tinyurl.com/3sfajvy>



Charles Darwin (1809-1882) is known as history's most renowned biologist who developed the theory of evolution.

Peering into Darwin's bookshelves

Over nearly two decades, Singapore-based science historian John van Wyhe dug into Charles Darwin's past to uncover the rich repertoire of scientific books, letters and publications that he owned. **Shabana Begum** unearths some of the snippets in this now-digitised library.



• The father of communism, Karl Marx, was a fan of the father of evolution. Marx gifted Darwin a copy of one of his most famous works – *Das Kapital* – and inscribed on the title page: "On the part of his sincere admirer / Karl Marx."

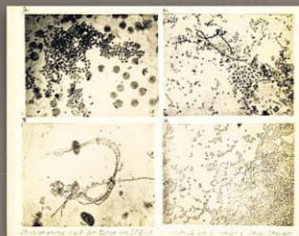
• But Darwin apparently did not finish the book, as pages 106 to 882 are uncut, and remain bound together.



• A cover of the book *Atlantis: The Antediluvian World*, written by a Minnesota politician, Ignatius Donnelly, who believed that the fictional city of Atlantis was real.

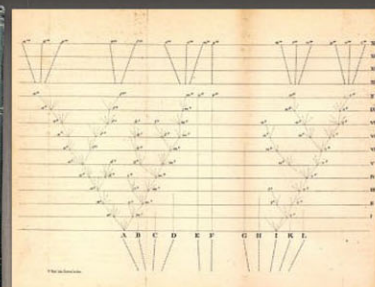
• Dr van Wyhe said several people sent Darwin their conspiracy theories.

• The first published photographs of bacteria in an 1877 German scientific periodical sent to Darwin.



• Letters were very much a part of Darwin's scientific archive, as they helped him gather data from others to substantiate his theories and discuss science with his counterparts.

• This is a snippet of a letter Darwin wrote to C Lyell in the 1850s. The letter discussed geology and the foliation of rocks, with an accompanying diagram. This page is part of a compilation of letters that Darwin's third son helped turn into a book in 1903.



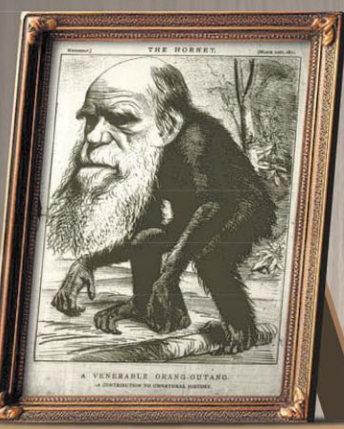
• Known to be the most important biological book ever written, Darwin's *On The Origin Of Species*, published in 1859, introduced the theory that living things evolve over time through natural selection.

• The diagram (left) is the only illustration in the scientific tome. The branching diagram shows how similarities between species can be explained by their descent from common ancestors.

• At that time, Darwin's theories were controversial to sections of society because they conflicted with religious beliefs, for instance.

• Cartoons and caricatures, especially of himself, could have been a source of amusement for Darwin – he kept numerous clippings of such artwork.

• These caricatures, including one of Darwin's head on an orang utan's body published in *The Hornet* magazine, show how the naturalist's work became part of 19th-century popular culture.



• A page from Darwin's classic account describing his travels and discoveries during his five-year voyage on the HMS Beagle, from 1831 to 1836.

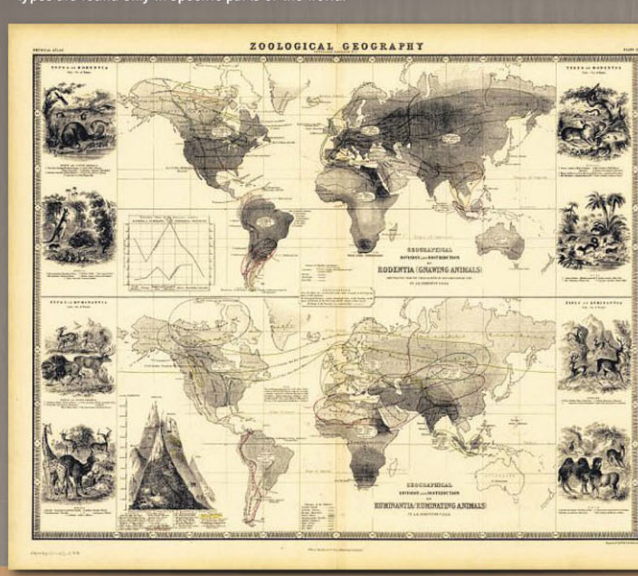
• Darwin's illustration of the finch beaks has become one of the most iconic images in all of science. Many people have even had that image tattooed onto themselves, said Dr van Wyhe.



• One of the books Darwin took with him on the voyage of the Beagle was Werner's *Nomenclature Of Colours*. He referred to it to record the colours of the specimens he collected on his explorations.

• Darwin's children would later play with the book to match and name colours. The naturalist married his first cousin Emma, and they had 10 children, of whom seven survived to adulthood.

• In Darwin's hefty pamphlet collection is this 1856 table of zoological geography, which shows how certain animal types are found only in specific parts of the world.



Sources: DARWIN ONLINE, DARWIN CORRESPONDENCE PROJECT PHOTOS: DARWIN ONLINE STRAITS TIMES GRAPHICS