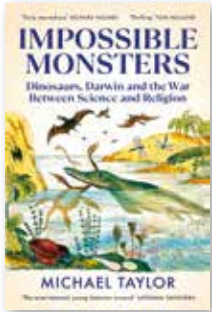


EVOLUTION

How science won over the pious

JOHN VAN WYHE hails an exploration of the 19th-century debate over the Earth's origins, which finds that scientists and men of god were often singing off the same hymn sheet



Impossible Monsters: Dinosaurs, Darwin and the War Between Science and Religion
by Michael Taylor
Penguin, 496 pages, £25

Human beings have existed on this planet for many millennia. But only in the

19th century was the startling truth about the history of the world and our origins gradually uncovered. The story of how these profound changes in our understanding unfolded is sadly not as well known today as it should be. Enter Michael Taylor's new book, *Impossible Monsters*.

As Taylor sets out, Charles Darwin did not present the theory of evolution to a public that was horrified at the idea that the world was not 6,000 years old and that living things had not been created by God all at once. Educated people already knew this. Geology and palaeontology were the hottest sciences in the early 19th century. The cumulative investigation of the Earth – and an ever burgeoning haul of fossils – ensured that the story of the Earth's history was essentially the same in outline back then as it is today.

So, before Darwin entered the story, Christian geologists had already discovered that the world was ancient beyond imagination and that there had never been a global flood. It was these pious scholars who discovered that living things had progressively become more complex over geological time. First there had been sea shells, later fish, then reptiles and finally mammals had appeared.

It's true that evolutionary ideas had long been frowned upon, but by the time Darwin conceived of his own in the 1830s, naturalistic means for explaining the origins of species was an option on the table. There was no fear of ostracism or persecution. Within 20 years of publication, Darwin's *On the Origin of Species* had made evolution no longer disreputable speculation but scientific fact.

By the 1870s, then, the debate in science was over. And yet, Taylor is quick to remind us, almost all of the people convinced of this remained religious. How can that be? Because



Ageing process A 15 million-year-old ammonite discovered on Mauritius. "Before Darwin entered the story, Christian geologists had already discovered that the world was ancient beyond imagination," writes John van Wyhe

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evolution was not a deal-breaker for them. Many of them were happy to accept that God had made the laws of nature and Darwin's natural selection was one of these laws.

Taylor's book is good at telling this story – and giving some of the less well-known players more than the usual short shrift. James Ussher, Archbishop of Armagh and Primate of All Ireland from 1625–56, is often ridiculed as the person who counted up all the 'begats' in the Bible to conclude that the world was created in 4004 BC. That would

make the world only about 6,000 years old. But Ussher was no fool and, using what was sophisticated scholarship for his time, made his own estimate among other competing theories. His theory ultimately prevailed and that, as Taylor points out, is how the English Bible came to have a footnote giving the date for the first line of Genesis: "In the beginning God created the heaven and the Earth."

Impossible Monsters also shines a light on Mary Anning, the Dorset woman whose preparations of giant fossil marine reptiles shocked the world. Thanks to Taylor, we get a sense of who Anning was – and even learn that she was well aware of the significance of her findings.

It's observations such as this that make *Impossible Monsters* such an attractive book. While not based on the latest scholarly literature, it is a sympathetic, charming and beautifully written guide through a pivotal part of history. **II**

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John van Wyhe, author of *Dispelling the Darkness: Voyage in the Malay Archipelago and the discovery of evolution by Wallace and Darwin*. (WSP, 2013)