

# Can religious teachings prove evolution to be true?

[Matt Walker](#) | 16:38 UK time, Tuesday, 5 July 2011



Bird-hipped dinosaurs (image: Natural History Museum, London)

It is one of the great questions of the past 150 years.

Did God or evolution drive the emergence of life in all its resplendent variety?

This blog, the US education system, and even American politics have to a degree all become dominated by the debate at various times, which goes to the heart of our world view and our ideas of where we, and all other forms of life, came from.

But I've just come across an intriguing piece of research that may, to coin a phrase, put an evolutionary cat among the believing flock of creation scientists, many of whom believe in the literal account of Genesis.

One scientist has decided to use creation science to test the validity of evolution.

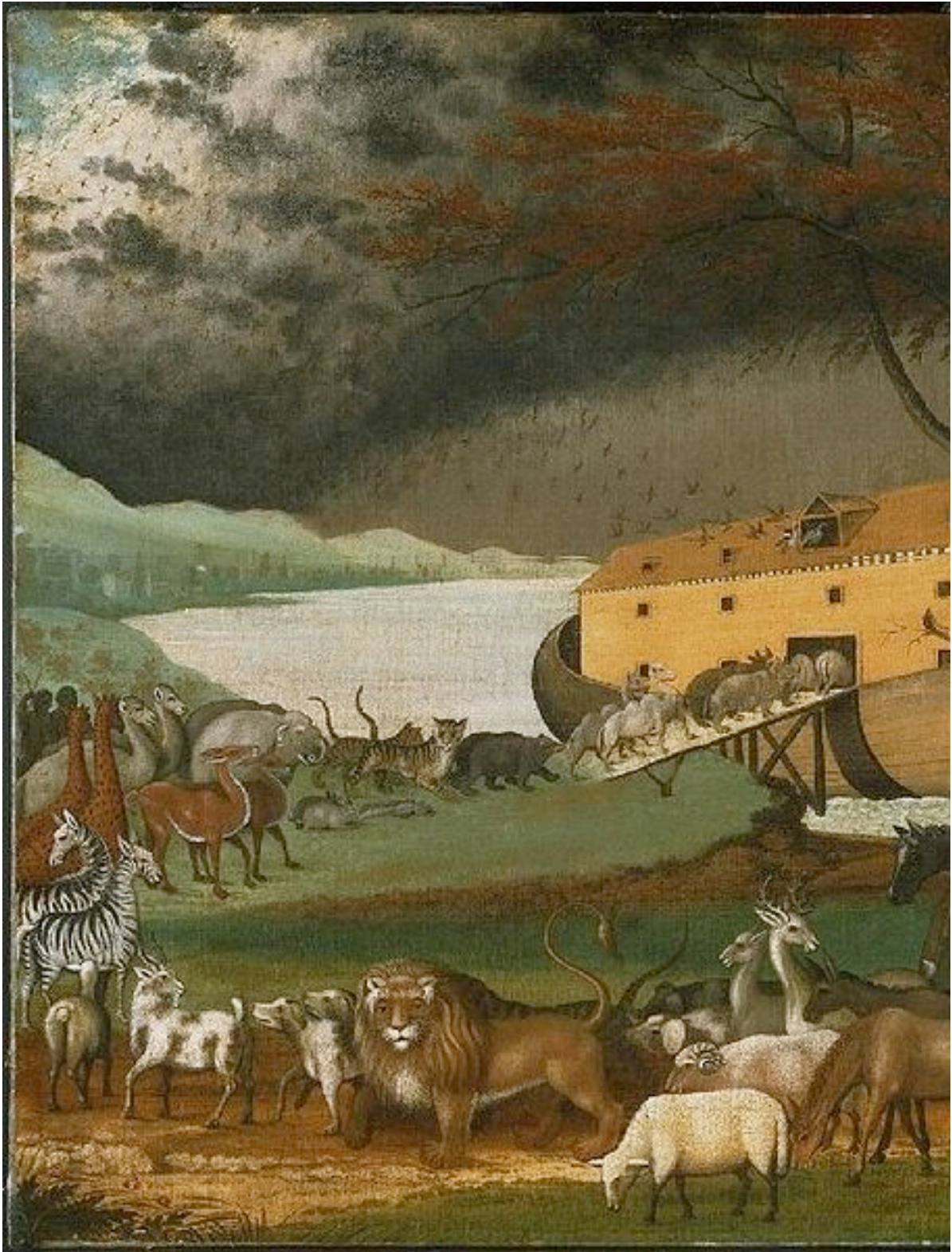
Because, he says, if it turns out that creation science proves evolution, then by its own logic, it will have to reject its own canon of research that previously denied it.

It's a clever idea, because it once again puts evidence, rather than faith, at the centre of the debate.

Science cannot prove that God doesn't exist, or that God may have once put in place all known physical laws and processes that shaped the universe and everything in it.

Science cannot challenge faith, which by its very nature, does not require evidence (many scientists are religious people who see no contradiction between their faith and work and many people of faith see no contradiction with what science can explain).

But science does require evidence, and this evidence allows us to explain, with increasing accuracy, how the world around us works.



Noah's Ark, oil on canvas painting by Edward Hicks, 1846

The power of this evidence-based approach may explain the rise of creation science, which to briefly summarise, seeks evidence supporting the literal interpretation of the biblical book of Genesis.

Such research is then published in journals such as Journal of Creation and Creation Research

Society Quarterly, and these technical reports are then cited in a vast, growing body of populist creationist literature that conflicts with, and undermines the teaching of evolution.

Today, more than 20% of the British public and the majority of US citizens, either tentatively or explicitly reject evolution, according to [surveys published in the journal Science](#).

So it's crucial that the debate is had, and that it is the evidence that is debated, rather than any faith-based position, which cannot be argued.

Which brings me back to the use of creation science to test the validity of evolution.

Biologist [Phil Senter of the Fayette State University](#) in North Carolina, US, has published the second of two papers that uses creation science techniques to examine the fossil record.

In the first, published in 2010, he used a technique called classic multidimensional scaling (CMDS) to evaluate the appearance of coelurosaurian dinosaurs over [geological time](#).

That long, detailed paper was published in the Journal of Evolutionary Biology, and you can [read the abstract](#).

CMDS is derived from a branch of creation science called baraminology, which classifies organisms according to a creationist framework. Animals fall into types, or baramins, which were created independently, but have diversified since.



Artist's impression of Archaeopteryx (image: John Sibbick / NHMPL)

So [cats](#), for example, are a single baramin or type of animal, that was created once by God, and have since diversified into those we see today (including lions, tigers, house cats etc).

Baraminologists trawl the fossil record for evidence that this is true. They identify “morphological gaps” in the record (for example, whether fossils of cats exist, but not cat-like animals) and use those to argue that such animal types (cats) are unique and created separately, from say dogs.

CMDS mathematically maps the occurrence of these morphological gaps, and baraminologists have used it to point out there are significant morphological gaps between modern and extinct whales, between arthropods and the worm-like annelids and arthropods and molluscs. And that, they say, is evidence that each group was created independently, and could not have evolved into the other.

Dr Senter has no real issue with the methodology – as he points out in the 2010 paper, mathematics has no creed.

But he argues that if CMDS shows that [dinosaurs](#) do show transitional forms, and are in fact



genetically related to each other, then creationists are in a bit of a bind.

Either they must accept that to be true, and therefore contradict their own position that these groups appeared without evolution. Or they must throw out the assertion, but also reject their own methodology, which they have used to validate their creationist claims.

Dr Senter's 2010 study, did of course, show that coelurosaurian dinosaurs are related, in particular that tyrannosaurs (to which *T. rex* belongs) form a continuous group with other dinosaurs belonging to a group called the Compsognathidae.

It also showed that one of the most famous animal fossils of all, *Archaeopteryx*, which has the appearance of a transitional form between birds and reptiles, is also morphologically closely related to other dinosaurs.



Are all cats of a kind? (image: Getty images / Gallo images)

Now Dr Senter has done it again.

In a study published this week in the *Journal of Evolution*, he shows how another creationist science method, a baraminological technique called taxon correlation, also shows enough morphological continuity between dinosaurs to prove, by creationist standards, that dinosaurs are genetically related.

If you read that abstract, it shows that a continuous morphological spectrum unites the basal members of a range of dinosaur groups including the Saurischia, Theropoda, Sauropodomorpha, Ornithischia and Thyreophora.

Within these groups are the dinosaurs familiar to most of us: the huge sauropods, the bird-like theropods such as *Velicoraptor* depicted in Jurassic Park and so-called bird-hipped dinosaurs such as the three-horned *Triceratops*.

The full paper is 20 pages long, and its conclusions will make for uncomfortable reading for creationists embracing an evidence-based approach to make their case.

Even some of Dr Senter's results, which at first glance, may give succour to creationists, actually create new problems for them, he says.

For example, it shows that dinosaurs can be grouped into eight kinds, or baramins.

That is helpful to creationists. Many creationist scholars answered the problem of how so many pairs of gigantic dinosaurs fitted onto Noah's Ark by saying there were only 50 "kinds", and therefore only 100 animals were carried on the Ark. If only eight "kinds" existed, then there's even more room on the Ark for all the other life forms that needed sanctuary.

But if just eight “kinds” of dinosaur existed, then that means that ever more types of dinosaur have to fit into each group, or baramin, that creationists believe was directly created by God. Which means of course, that somehow, in just a few thousand years, each “kind” of dinosaur begat the huge variation in fossils we see today.

It is reminiscent of evolution, just even faster paced.



How many kinds of dinosaur were there? (image: De Agostini UK / Natural History Museum London)

Dr Senter points out that creationists' room for manoeuvre, when citing the evidence, continues to diminish.

Since 1990, Dr Senter says that at least 13 transitional fossils have been found that do bridge the morphological gaps between groups of dinosaurs that creationists once held were independently created.

The debate will no doubt continue.

Dr Senter's research, which is more sophisticated than I can represent here, and this blog, pass no comment on any individual's belief.

But his work, and my reporting of it, will hopefully take the discussion forward about what evidence is gathered and how, and what that evidence tells us.

So let the discussion evolve.

Will any creationists consider the idea that even some of their own evidence-gathering techniques may point to the veracity of evolution?