Video: Fresh glimpse at iconic dinosaur footprints

Historical images give rise to three-dimensional reconstruction of ancient Texas trackway.

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Scientists reconstruct iconic dinosaur path
Fossilized dinosaur footprints excavated from a Texas river decades ago have deteriorated, but scientists were able to reconstruct them using historical photographs.

REF. 1

Decades-old photographs have helped generate a futuristic rendering of some of the most famous dinosaur footprints in the world.

This video fly-through depicts some of the world's most famous dinosaur footprints: the tracks of a theropod (a two-legged, meat-eating dinosaur) and a sauropod (a four-legged vegetarian). About 110 million to 120 million years ago, both creatures stomped across a mudflat in what is now Texas. The mud hardened to limestone, preserving the tracks.

In 1940, legendary fossil-hunter Roland T. Bird hacked a chunk more than 9 metres long out of the bed of the Paluxy River. He believed that the footprints within it showed the meat-eater in the process of chasing and taking down its prey. Modern palaeontologists mostly discount this ‘chase’ scenario, but the tracks remain renowned.

Bird shipped one part of the rock to the American Museum of Natural History in New York City and the other to the Texas Memorial Museum in Austin. What remained in the river bed soon deteriorated, as did the section in the Austin museum, which was not mounted or cared for properly.

Ref. 1

The reconstructed Paluxy trackway is roughly 45 metres long.

Now, a research team has used 17 of Bird’s old photographs to reconstruct what the tracks originally looked like. “As far as I know, this is the first time anyone has used historical photographs of a specimen that no longer exists, or at least no longer exists in its original form,” for such a reconstruction, says lead author Peter Falkingham, a palaeontologist at the Royal Veterinary College in London.

The report appears today in *PLoS ONE*[1].

Falkingham's team used photogrammetry, a technique that maps corresponding points in multiple pictures to build up a three-dimensional representation of an object. The method is cheaper and faster than using a laser scanner to re-create a landscape, but is typically used with modern photographs rather than historical ones.

From Bird's photos, the scientists reconstructed all 45 metres of the Paluxy River trackway — the first time it has been seen in its entirety since Bird chopped it apart. The video reveals which of two conflicting maps Bird drew of the footprints is correct: the trackways curve slightly to the left, rather than continuing straight.

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References

1. Falkingham, P. L., Bates, K. T. & Farlow, J. O. *PLoS ONE* **9**, e93247 (2014).