

Technofossils—an unprecedented legacy left behind by humans

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A new study by an international team of scientists, including Dr Jan Zalasiewicz and Professor Mark Williams of the University of Leicester's Department of Geology, suggests that the fossil impact humans have made on the planet is vast and unprecedented in nature – and that there's been nothing remotely like it since the Earth formed, over four and half billion years ago.

The study, entitled 'The technofossil record of humans' and published by SAGE in *The Anthropocene Review*, argues that, like dinosaurs, who left their bones and footprints behind for [future generations](#) to discover, humans will also leave a footprint behind – one made up of [material goods](#) unique to mankind that are so different from anything else produced by animals in the history of the Earth that they deserve their own name: technofossils.

Dr Zalasiewicz said: "Palaeontologists call preserved animal-made structures trace fossils. Most animal species make only one – or at most a very few – different types of trace. For example, dinosaurs made footprints and worms leave burrows. Just one species, though, *Homo sapiens*, now manufactures literally millions of different types of traces that range from nano-scale to city-sized.

"Whereas trace fossils such as animal burrows changed their pattern with geological slowness, over millions of years, as the organisms that produced them evolved, the things that humans manufacture now evolve with lightning speed, as our factories bring new goods to the market each

year – and make old ones obsolete. Many of the cast-off objects that now litter the landscape will become buried in sediment – and will be well on the way to becoming technofossils."

The study suggests that humanity's equivalent of the dinosaur's footprint will be in the form of a wide array of technofossils such as motorways, cities, airports, toothbrushes, ballpoint pens and mobile phones – everything that we build or manufacture.

Professor Mark Williams added: "Millions of years from now, long after humans have gone, technofossils will be the defining imprint on the strata of the [human](#) epoch that people increasingly call the Anthropocene. If any palaeontologists were to appear on – or visit – the Earth in the far geological future, they will think the technofossil layer more weird and wonderful, by far, than dinosaur bones. It's something to think about when you next park the wheelie bin at the end of the drive."

More information: The study will appear in the April 2014 print issue of *The Anthropocene Review*: anr.sagepub.com/content/early/.../19613514953.full.pdf

Provided by University of Leicester

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