


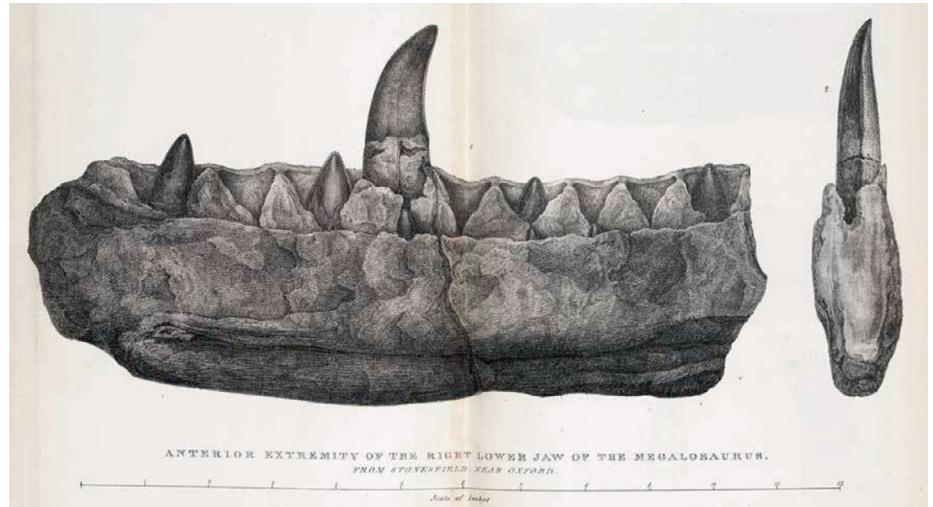
Two hundred years of dinosaurs

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Two centuries after the first non-avian dinosaur was announced, we celebrate this iconic clade with some specially commissioned content and a consideration of past and current research questions.

On 20 February 1824, William Buckland reported his findings on the ‘Megalosaurus or great Fossil Lizard of Stonesfield’ to the Geological Society of London. The skeletal elements available to Buckland were sparse and fragmented, but they were sufficient for him to determine that the spine and limbs were those of a quadruped and that the teeth ‘show the creature to have been oviparous, and to have belonged to the order of Saurians or Lizards’. Nearly twenty years later, Richard Owen would take *Megalosaurus* – along with *Iguanodon* and *Hylaeosaurus* (both of which were described by Gideon Mantell) – as the basis for his proposed new clade, Dinosauria. Although by this point many fossils that would be later attributed to Dinosauria had been discovered, because *Megalosaurus* was the first of these taxa to be formally published (W. Buckland. *Trans. Geol. Soc. Lond.* **1**, 390–396; 1824) it assumes the title of the first dinosaur to have been named by science. It was not long before ‘dinosaur mania’ took hold, and – despite some gaps in research in the interim – public interest and excitement is as strong as it ever was: among our anniversary content in this issue is a new format, *Species Spotlight*, kicked off by author and researcher Stephen Brusatte, in which he helps to explain this perennial fascination with a love letter to his favourite dinosaur, *Tyannosaurus rex*.

A Books & Arts review in this issue looks at a recently published short biography of Richard Owen, the man who catalysed the study of dinosaurs – not only through his taxonomic and systematic work, but also in his role as founder of London’s Natural History Museum. A complicated character, Owen’s role in the publicization of dinosaurs in the 19th century is undeniable. But Owen’s involvement with London’s Crystal Palace Dinosaurs – an early and celebrated depiction of these creatures – has been overstated, according to a Q&A with



Engraving from William Buckland’s ‘Notice on the Megalosaurus or great Fossil Lizard of Stonesfield’, from a drawing by Mary Buckland (then Mary Morland).

researcher and palaeoartist Mark Witton. Reconstructing dinosaur appearance remains as pertinent a question today as it was 200 years ago, and Witton follows artists such as Mary Buckland (née Morland) and Mary Ann Mantell (née Woodhouse) in combining scientific research with illustration techniques to recreate what extinct animals would have looked like. Mark is also the artist behind our anniversary cover, which depicts *Megalosaurus* on the basis of what we know today; a photograph of the Crystal Palace *Megalosaurus* in the Q&A shows what was considered cutting edge in Buckland and Mantell’s time.

Although *Nature* was not launched until 1869 and thereby missed out on the first flush of dinosaur discoveries, the journal was eager to catch up – facilitated by the close involvement of Thomas Henry Huxley, who authored an article on ‘Triassic Dinosauria’ in the very first issue (T. H. Huxley. *Nature* **1**, 23–24; 1869). News of dinosaur discoveries thereafter regularly peppered the pages, partly thanks to the involvement of Edward Drinker Cope as Corresponding Secretary in early editions. As a result, Cope’s perspective on one side of the ‘Bone Wars’ (K. Padian. *Nature* **405**, 121–122; 2000) may have gotten more of a look in, but his antagonist Othniel Charles Marsh was also a frequent submitter. *Nature* was a key witness to the Dinosaur Renaissance that saw a wave

of research into the ecology and evolution of dinosaurs in the late 1960s and early 1970s, when John Ostrom took up Huxley’s idea (shared by others, such as Cope) that dinosaurs had evolved into birds, and assembled the first substantive evidence for this theory. A collection, co-curated with our colleagues across the Nature Portfolio, documents historical milestones in the history of dinosaur research as well as cutting-edge research into dinosaur life history and behaviour, evolution and extinction from the past 20 years. The collection showcases the evolution of dinosaur research itself, from initial systematics and rough phylogeny, through the early genesis of questions such as the dinosaur–bird transition, to research into links between theropods and birds, evidence of coloration and pigment (key questions for current palaeoartists such as Mark Witton), and evolutionary dynamics.

The question of where dinosaur research will go next was taken up by a conference last month at London’s Natural History Museum, which featured researchers from around the world exploring this old topic in new ways. Key highlights and research areas to watch include the earliest dinosaurs of the Triassic, which might explain the success of dinosaurs relative to other contemporary organisms; the impact of Gondwana’s break up on evolutionary dynamics, and whether the fossil

record recovers a true picture of these dynamics or a biased sample (and how to correct for biases); continued questions about the origins of flight; and whether and where morphology tracks ecology or phylogeny. There were also questions about widening participation and diversity, as well as parachute research

and repatriation. This issue also features a [Comment](#) from the Brazilian Society of Palaeontologists that discusses how scientific societies can help to mediate repatriation endeavours as we move into the third century of dinosaur research. There are as many, if not more, questions about dinosaurs now than

there were back in 1824, but with the battery of scientific techniques now available, and with more diverse teams of scientists, our ability to answer them is looking better than ever.

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