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典藏版

通识读本

# 恐龙探秘

## Dinosaurs

A Very Short Introduction

David Norman 著

史立群 译

外语教学与研究出版社

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北京 BEIJING

京权图字：01-2006-6860

Dinosaurs was originally published in English in 2005.

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### 图书在版编目(CIP)数据

恐龙探秘：英汉对照 / (英) 诺曼 (Norman, D.) 著；史立群译. — 北京：外语教学与研究出版社，2013.5

(斑斓阅读·外研社英汉双语百科书系：典藏版)

书名原文：Dinosaurs

ISBN 978-7-5135-3120-7

I. ①恐… II. ①诺… ②史… III. ①英语—汉语—对照读物②恐龙—普及读物 IV. ①H319.4: Q

中国版本图书馆CIP数据核字(2013)第105683号

出版人 蔡剑峰

项目负责 姚虹 周渝毅

责任编辑 文雪琴

封面设计 牛茜茜 高蕾

版式设计 吕茜

出版发行 外语教学与研究出版社

社址 北京市西三环北路19号(100089)

网址 <http://www.fltrp.com>

印刷 三河市北燕印装有限公司

开本 650×980 1/16

印张 21.5

版次 2013年6月第1版 2013年6月第1次印刷

书号 ISBN 978-7-5135-3120-7

定价 26.00元

购书咨询：(010)88819929 电子邮箱：[club@fltrp.com](mailto:club@fltrp.com)

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物料号：231200001

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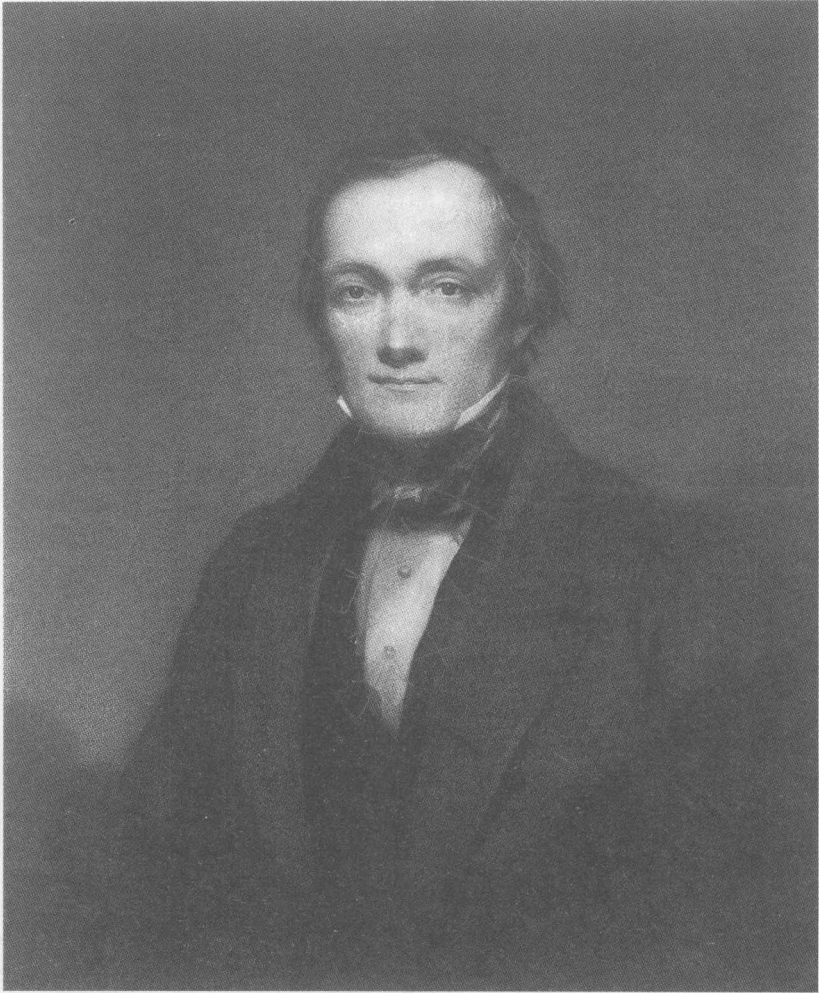
# Introduction

## Dinosaurs: facts and fiction

Dinosaurs were 'borne' officially in 1842 as a result of some truly brilliant and intuitive detective work by the British anatomist Richard Owen (Figure 1), whose work had concentrated upon the unique nature of some extinct British fossil reptiles.

At the time of Owen's review, he was working on a surprisingly meagre collection of fossil bones and teeth that had been discovered up to that time and were scattered around the British Isles. Although the birth of dinosaurs was relatively inauspicious (first appearing as an afterthought in the published report of the 11th meeting of the British Association for the Advancement of Science), they were soon to become the centre of worldwide attention. The reason for this was simple. Owen worked in London, at the Museum of the Royal College of Surgeons, at a time when the British Empire was probably at its greatest extent. To celebrate such influence and achievement, the Great Exhibition of 1851 was devised. To house this event a huge temporary exhibition hall (Joseph Paxton's steel and glass 'Crystal Palace') was built on Hyde Park in central London.

Rather than destroy the wonderful exhibition hall at the end of 1851 it was moved to a permanent site at the London suburb of



**1. Professor Richard Owen (1804–92)**

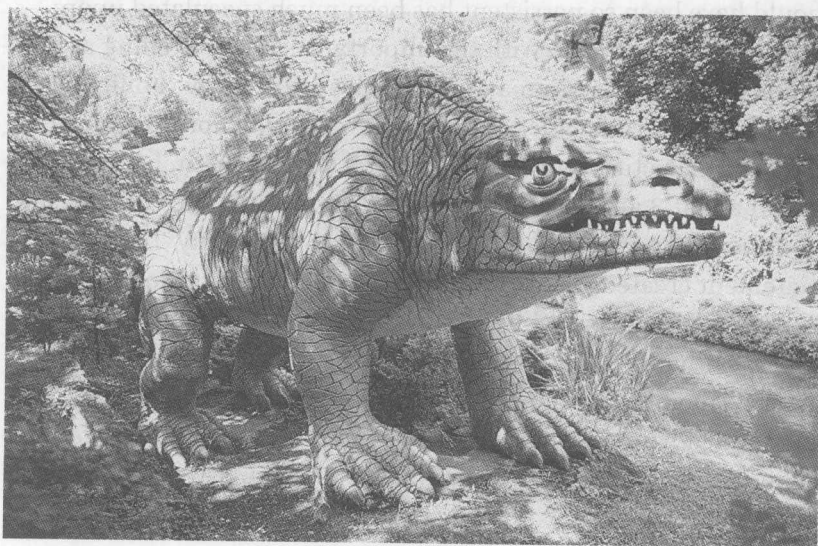
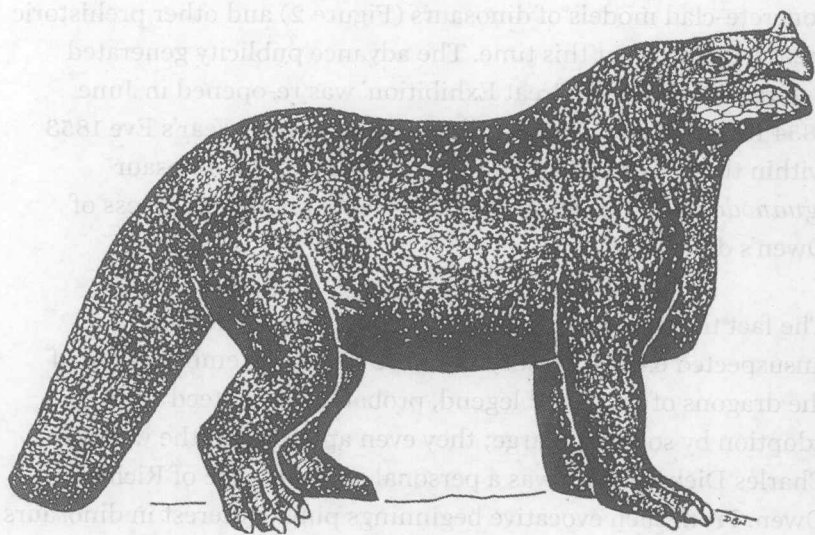
Sydenham (the future Crystal Palace Park). The parkland surrounding the exhibition building was landscaped and arranged thematically, and one of the themes depicted scientific endeavour in the form of natural history and geology and how they had contributed to unravelling the Earth's history. This geological theme park, probably one of the earliest of its kind, included reconstructions of genuine geological features (caves, limestone pavements, geological strata) as well as representations of the



inhabitants of the ancient world. Owen, in collaboration with the sculptor and entrepreneur Benjamin Waterhouse Hawkins, populated the parkland with gigantic iron-framed and concrete-clad models of dinosaurs (Figure 2) and other prehistoric creatures known at this time. The advance publicity generated before the relocated 'Great Exhibition' was re-opened in June 1854 included a celebratory dinner held on New Year's Eve 1853 within the belly of a half-completed model of the dinosaur *Iguanodon* and this ensured considerable public awareness of Owen's dinosaurs.

The fact that dinosaurs were extinct denizens of hitherto unsuspected earlier worlds, and were the literal embodiment of the dragons of myth and legend, probably guaranteed their adoption by society at large; they even appeared in the works of Charles Dickens, who was a personal acquaintance of Richard Owen. From such evocative beginnings public interest in dinosaurs has been nurtured and maintained ever since. Quite why the appeal should have been so persistent has been much speculated upon; it may have much to do with the importance of story-telling as a means of stimulating human imaginative and creative abilities. It strikes me as no coincidence that in humans the most formative years of intellectual growth and cultural development, between the ages of about 3 and 10 years, are often those when the enthusiasm for dinosaurs is greatest – as many parents can testify. The buzz of excitement created when children glimpse their first dinosaur skeleton is almost palpable. Dinosaurs, as the late Stephen Jay Gould – arguably our greatest popularizer of scientific natural history – memorably remarked, are popular because they are 'big, scary and [fortunately for us] dead', and it is true that their gaunt skeletons exert a gravitational pull on the imaginative landscape of youngsters.

A remarkable piece of evidence in support of the notion that there is a relationship between the latent appeal of dinosaurs and the human psyche can be found in mythology and folklore. Adrienne



2. Top: a sketch of the *Iguanodon* model at Crystal Palace.  
Bottom: A photograph of the model of *Megalosaurus* in Crystal Palace Park.

Mayor has shown that as early as the 7th century BC the Greeks had contact with nomadic cultures in central Asia. Written accounts at this time include descriptions of the Griffin (or Gryphon): a creature that reputedly hoarded and jealously guarded gold; it was wolf-sized with a beak, four legs, and sharp claws on its feet. Furthermore, Near East art of at least 3000 BC depicts Griffin-like creatures, as does that of the Mycenaean. The Griffin myth arose in Mongolia/north-west China, in association with the ancient caravan routes and gold prospecting in the Tianshan and Altai Mountains. This part of the world (we now know) has a very rich fossil heritage and is notable for the abundance of well-preserved dinosaur skeletons; they are remarkably easy to find because their white fossil bones stand out clearly against the soft, red sandstones in which they are buried. Of even greater interest is the fact that the most abundant of the dinosaurs preserved in these sandstones is *Protoceratops*, which are approximately wolf-sized, and have a prominent hooked beak and four legs terminated by sharp-clawed toes. Their skulls also bear strikingly upswept bony frills, which might easily be the origin of the wing-like structures that are often depicted in Griffin imagery (compare the images in Figure 3). Griffins were reported and figured very consistently for more than a millennium, but beyond the 3rd century AD they became defined increasingly by allegorical traits. On this basis it would appear to be highly probable that Griffins owe their origin to genuine observations of dinosaur skeletons made by nomadic travellers through Mongolia; they demonstrate an uncanny link between exotic mythological beasts and the real world of dinosaurs.

Looked at through the harsh lens of objectivity, the cultural pervasiveness of dinosaurs is extraordinary. After all, no human being has ever seen a living non-avian dinosaur (no matter what some of the more absurd creationist literature might claim). The very first recognizably human members of our species lived about 500,000 years ago. By contrast, the very last dinosaurs trod our planet approximately 65 million years ago and probably perished,