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REVIEW

BOOK

Palaeontology in Public: Popular science, lost creatures and deep time
Edited by Chris Manias
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On the Social Impact of Dinosaurs

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The societal influence of paleontology, the branch of science concerned with fossil animals and plants, is ever-growing, with many unresolved aspects and ambiguities. Such is the conclusion of *Palaeontology in Public*, an informative new Open Access collective work.

Among the aforementioned issues is that enthusiasm and popularity surrounding some fossil finds may distract from objectively appraising their societal impact. The book's editor, Chris Manias, a senior lecturer in the history of science and technology *at King's College London, explains* that such acclaim can lead to multifaceted, ambivalent results.

The most widely publicized fossils are of dinosaurs. Films and computer games featuring the Tyrannosaurus, Brontosaurus and Triceratops tend to focus on the frightening aspects of vast animals edulcorated by the reminder that they are extinct. And so, untraumatized children play with cuddly toys in the form of dinosaurs.

Human interpretations of dinosaurs alternate between horror movie-style ominousness and domestic coziness. They reflect legendary lore about dragons and giants, somehow satisfying the human appetite for myth. Dr. Manias addresses the paradoxical fear versus coziness social dichotomy by suggesting that historical insights from different scholarly fields are needed to understand the role of paleontology in the public arena. As a first step, the complexity of the subject matter must be accepted.

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One expression of this acceptance is the diversity of subjects in this volume, ranging from the novelists Arthur Conan Doyle and Michael Crichton to technical accounts of paleontology in twentieth-century Argentina, Venezuela, and other sites. There is also a lengthy biographical analysis of the American paleontologist George Gaylord Simpson. It discusses how some scientists use salesmanship to advance their careers when headline-grabbing finds are not forthcoming.

How the mass media covers paleoanthropology is another topic of investigation. The myriad of ways to approach paleontology belie the fact that scientifically, it is often seen as a comparatively marginal field of study. Usually modestly funded, paleontological research may be hampered by ongoing scholarly debate over whether it produces useful scientific understanding or merely intriguing facts.

Reconstructions based on fossil fragments and datasets drawn from the fossil record are not readily presented as findings. Some critics accuse specialists of inventing too much when reconstructing fossil organisms.

Nevertheless, palaeontology enjoys a disproportionate social impact because outsized creatures and vast time intervals capture the imagination. The uncertainty of paleontological study may intrigue some observers, like the plot of a mystery. This story may deal with what is familiar, providing origins for recognizable modern animals, or focus on other creatures that remain alien-looking.

Using this dichotomy, some leading paleontologists have sought public funding from philanthropists and media organizations by publicizing their own efforts. In this way, the social status of paleontology has been integral to its scientific advancement over many decades.

A persistent aura of unseriousness and sensationalism surrounds aspects of dinosaur hunting. More speculative than other sciences, paleontology and its role in public life have a certain amount of innate imposture. A significant portion of dinosaur displays in natural history museums are casts or replicas, because of the rarity of complete skeletons, the weight and fragility of original bones, and the need to create dynamic, life-like displays.

Palaeontology in Public also raises the issue of when dinosaur fandom may overshadow societal concerns. One chapter on the discovery of feathered dinosaurs in China is presented as a conversation between Chinese paleontologist Zichuan Qin, currently a postdoctoral researcher fellow at the University of Birmingham, the United Kingdom, and Assistant Professor Lukas Rieppel, who teaches history at Brown University, the United States.[1]

Their discussion explores the economic importance to local populations of major dinosaur bone finds, leading to much-publicized subsequent digs, museums, and tourism. As a bonus to national income, dinosaur finds such as those in China are to be hoped for, even in areas where they are unlikely until now.[2]

As Rieppel explains, after the hardships of the Cultural Revolution in China, a new openness to international collaboration encouraged research on key sites such

as the Jehol biota, a well-preserved collection of fossils from northeastern China, dating from approximately 131 to 120 million years ago.

Since the 1980s, a freshly uncovered, well-preserved ecosystem featuring feathered dinosaurs, early birds, mammals, insects, plants with traces of soft tissues, feathers, and hair has added to the understanding of evolution.

It has also contributed to local pride in China's status, which Rieppel enthusiastically calls "a world center for vertebrate paleontology."[3] This celebratory tone pervades the chapter.

Notably absent are criticisms of Chinese fossil politics. Yet *Smithsonian Magazine* has already noted that Liaoning, a northeastern Chinese province bordering North Korea and the Yellow Sea, boasts around one dozen fossil museums, some of which are "mainly products of local boosterism or bureaucratic career-building."[4]

The Chinese government typically allocates budgets for constructing new buildings, but it neglects acquisitions for displays and hiring qualified staff. And centralization ensures that the best specimens found in regional digs are often displayed permanently in Beijing or other leading museums, far from where they were uncovered.

The fact that no such criticisms are cited by Qin or Rieppel is noteworthy, as if they were hesitating to spoil their high-spirited, almost giddy account of China's dinosaur boom in recent decades.

Ironically, good humor is in short supply in a detailed chapter about *Gertie the Dinosaur*, an animated short film released by American cartoonist and animator Winsor McCay in 1914. It was the first animated film to feature a dinosaur and presented a domesticated, cute, and endearing Brontosaurus so responsive to its master's moods that it wept when scolded.

The somber account of *Gertie the Dinosaur*[5] cites John Hutchinson, Professor of Evolutionary Biomechanics at Royal Veterinary College, London, who ponders whether Gertie moves plausibly. Professor Hutchinson decides that at times, she does.

This solemn investigation could have been more revealing if *Gertie* was placed in historical context among other screen comedies in which paleontology is presented as a madcap pursuit, if only due to its arcane remoteness from modern life. For instance, no mention is made of *Bringing Up Baby* (1938), a popular American screwball comedy film written by Dudley Nichols and Hagar Wilde, starring Cary Grant as a mild-mannered paleontologist who assembles the skeleton of a Brontosaurus with the exception of a single bone. When this absent item arrives, it is promptly buried by a dog, echoing a popular comic strip of the time, "Professor Dinglehoofer and his Dog" by Harold Hering Knerr, in which a canine also buries a rare dinosaur bone.

Despite such omissions, *Palaeontology in Public* is a remarkably inclusive and forward-looking study that provides much material for both readers interested in the social sciences and specialists.

Ideally, contemplating the subject of paleontology can inspire the public to think about environmental change, the history of the earth and diverse life forms, and, more generally, the

role of science in society. The national importance of paleontology in the US, China, Germany, Argentina, and Britain underlines its ubiquity in the public consciousness.

Nevertheless, some evidence of ancient life remains neglected societally, such as invertebrate paleontology, which deals with smaller, less spectacular objects. Despite China's much-publicized finds, other developments in paleontology in China have occurred in Argentina, Africa, Asia, and Australasia.

There is a substantial literature on the history and social role of the geological and paleontological sciences in Australia and South Asia. Still, for Russia and Africa, such subjects await thorough examination. As a means of confronting environmental change and extinction, Dr. Manias plausibly argues that paleontology has an ongoing potential impact on society today. Its public role addresses broader sociocultural concerns and should continue to serve as a topic for debate. *Palaeontology in Public* usefully points the way to how this discourse may develop in the near future, and, as such, it is a valuable addition to the bibliography on the social repercussions of science.

Notes

1 Manias, Chris, ed. 2025, Palaeontology in Public: Popular science, lost creatures and deep time. (UCL Press, 2025), 131-154. Manias, Chris, Palaeontology in Public: Popular science, lost creatures and deep time (London: UCL Press, 2025), 131-154.

2 The geoscientist and educator Marietta De Leon, PhD has explained that the absence of dinosaur finds in the Philippines was due to geological timing, insofar as when dinosaurs roamed the earth, the land masses now defined as part of the Philippines were still largely underwater. Nevertheless, Dr. De Leon expresses optimism that someday, dinosaur bones might be excavated on Palawan or Mindoro, which were once part of mainland China and thus geologically venerable enough. See De Leon, Marietta M., "Dinosaurs — and why we didn't have them in the Philippines," The Philippine STAR, July 28, 2005, https://www.philstar.com/business/science-and-environment/2005/07/28/288642/dinosaurs-151-and-why-we-didn146t-have-them-philippines.

3 Manias, Palaeontology in Public, 141.

4 Conniff, Richard, "The Great Chinese Dinosaur Boom: A gold rush of fossil-finding is turning China into the new epicenter of paleontology," Smithsonian Magazine, May 2018, https://www.smithsonianmag.com/science-nature/great-chinese-dino-boom-180968745/.

5 Manias, Chris, Palaeontology in Public, 53-77.

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