

## Review: The Art and Science of the Crystal Palace Dinosaurs

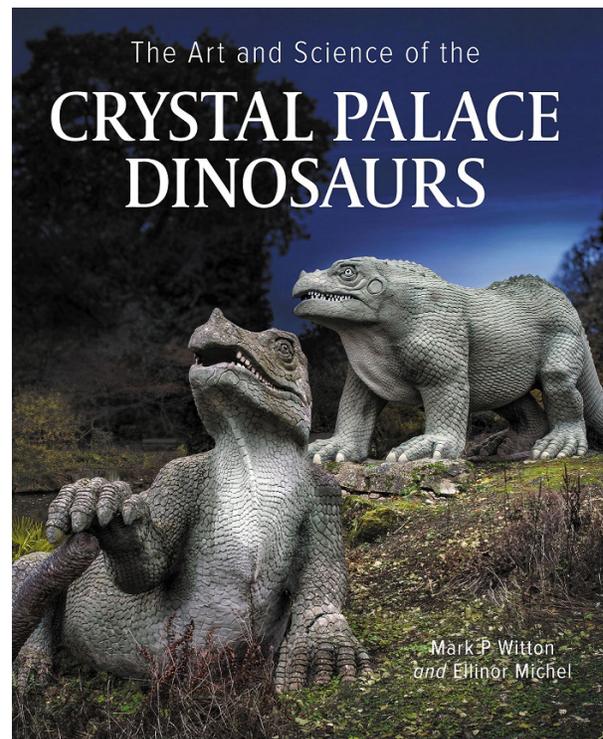
Review by Ben Hillesheim

Witton, Mark and Michel, Ellinor. The Crowood Press. 192 pages. ISBN: 9780719840494 192 p.

Palaeoart as a field stands with its feet firmly planted in both art and science. Palaeoart is art that is created with the intent of accurately depicting prehistoric life (Witton, 2019). As such, science deeply informs the artistic process in a way that is less common in other art genres. That said, palaeoart, like the science that informs it, is an evolving discipline. In addition to communicating information about ancient life, palaeoart also records paleontology's understanding of that life at the time it was made. Tracing the discipline through time reveals the struggles and triumphs of artists and their attending scientists to interpret extinct life forms based on fragmentary remains and the choices they made based on what they knew and what they thought they knew. Getting up close and personal with the palaeoartistic process is, therefore, a very human story steeped in history. It is a history that is worthy of our attention as it mirrors the same questions and controversies that face modern palaeoartists and the general public as it relates to what place prehistoric life holds in our public education and popular culture.

In *The Art and Science of the Crystal Palace Dinosaurs*, Mark Witton and Ellinor Michel explore the development and enduring cultural and scientific legacy of the Crystal Palace dinosaurs. The book is organized into three parts. The first explores the history of the Crystal Palace and the Geological Court, the second details the history and science behind each sculpture, and the final

section examines the legacy of these pieces of palaeontological heritage.



First, the authors introduce the historical context in which the Crystal Palace dinosaurs were first commissioned. They trace the fortunes of the dazzlingly ambitious but habitually cash-strapped Crystal Palace Company. In recounting how the

Crystal Palace and the Geological Court came to be, the authors examine the personalities involved in its construction, from the high-minded but disinterested Richard Owen to the eccentric but talented Benjamin Waterhouse Hawkins. Here the authors set up future chapters by establishing the professional relationship (or lack thereof) between Owen and Hawkins. It was this relationship that tried to make sense of Victorian dinosaur science and translate that understanding into the Crystal Palace dinosaurs.

The book explores, not only the enigmatic Crystal Palace dinosaurs (and other extinct animals) themselves, but also a lesser known feature of the Geological Court, the Geological Illustrations. These now mostly vanished displays depicted geologic formations in the United Kingdom and were reconstructed using rock sourced from the formations themselves. The authors walk through each of these formations and how they would have interacted with the animal sculptures when they were still intact. As a lesser-known feature of the Geological Court, the Geological Illustrations could have easily been relegated to a brief passage, but the authors take the time to give these features their due and the book is better for it. In addition to being interesting in their own right, the Geological Illustrations are an example of the grand ambitions in public education of the Crystal Palace Company. Unfortunately, few of the Geological Illustrations are preserved into the modern day. The poor state of these features and failures of preservation are themes the authors return to throughout the book.

The authors dedicate the middle section of the book to walking through each of the different surviving sculptures in the Geological Court and reviewing the history of their construction, the scientific interpretation that went into creating them, and their conservation history. This section of the book is divided into eight chapters, one for each of the groups of animal sculptures depicted in the Geological Court. The authors present, not only the history of each set of sculptures, but also examine the choices Waterhouse Hawkins made in their reconstruction. Hawkins' decisions to base his sculptures on certain living animals or to interpret the life appearance of extinct anatomical features in particular are explained both in the text and in detailed figures, which connect images of living animal anatomy to illustrations of those anatomies appearing reconstructed on the Crystal Palace dinosaurs.

Our understanding of dinosaurs and prehistoric life changes over time. A sense of measured humility with respect to our reconstructions of ancient life is required if we are to judge past attempts to interpret dinosaurs and other extinct animals. In this regard, the authors do a marvelous job at not treating current reconstructions of the animals depicted in the Geological Court as settled fact. For example, rather than referring to modern interpretations of *Iguanodon* or *Anoplotherium* as “correct” or as the “real” Iguanodon, the authors refer to current interpretations “as imagined in the twenty-first century” or “as we might reconstruct it today”. This careful use of language helps us, the readers, both to not treat our current understanding of paleontology as the “answer”, the end of learning, and to be reflective about our current place in the history of paleontology as a science.

Incidentally, this middle set of chapters walking through the palaeoartistic process of each sculpture answers the “question” put forth by a recent publication in *Palaeontologia Electronica*. “Designing scientifically-grounded paleoart for augmented reality at La Brea Tar Pits” (Davis et. al, 2022), a recent paper in PE, calls for palaeoartists to be more transparent with the scientific reasoning that goes into palaeoartistic reconstructions. The authors of *The Art and Science of the Crystal Palace Dinosaurs* do exactly that - or at least the best approximation of the reasoning that went into a long-dead artist's work. By tracing the production of the Crystal Palace sculptures from fossil material to interpretation of said fossil material to the final artistic rendering of a prehistoric creature, the palaeoartistic process becomes more accessible and we, the viewer, are invited to more actively engage with the work rather than accept it as the final word of a higher scientific authority.

In its final section, *The Art and Science of the Crystal Palace Dinosaurs* explores the cultural scientific impact and enduring legacy of the Crystal Palace dinosaurs. What place do the Crystal Palace dinosaurs hold in the history of dinosaurs and other prehistoric animals in popular culture? By examining the art that came before the Crystal Palace and the art that came after, the authors suggest that while the Geological Court does not represent the very first wave of “dino-mania” in popular culture, it does hold a unique place in the history of palaeontological art and culture. For example, the Crystal Palace dinosaurs featured some of the first mass merchandising of dinosaur toys and models as well as posters and prints. Critics of the Crystal Palace dinosaurs (and early

palaeoart in general) included contemporary scientists, such as Othniel C. Marsh of “Bone War” fame, who worried that incorrect palaeo-reconstructions would stick in the public’s imagination even when these reconstructions were updated in light of more evidence. This concern, as the authors point out, is not an unfamiliar one to those involved in palaeontology or science communication today.

Finally, the authors issue a call-to-arms to preserve the Crystal Palace dinosaurs. The authors recount the regrettable tale of how the Crystal Pal-

ace dinosaurs were often neglected throughout their history and how, as awareness for the cultural and scientific importance of the sculptures has grown in recent decades, new technology has helped us learn more about how these artworks were made. A better understanding of how these cultural treasures were built and maintained through history is vital to preserve this piece of palaeontological heritage. Proceeds from the sale of *The Art and Science of the Crystal Palace Dinosaurs* go to the Friends of Crystal Palace Dinosaurs.

---

## REFERENCES

- Davis, M., Nye, B.D., Sinatra, G.M., Swartout, W., Sjöberg, M., Porter, M., Nelson, D., Kennedy, A., Herrick, I., Weeks, D.D., and Lindsey, E. 2022. Designing scientifically-grounded paleoart for augmented reality at La Brea Tar Pits. *Palaeontologia Electronica*, 25.1.a9. <https://doi.org/10.26879/1191>
- Witton, M.P. 2019. *The Palaeoartist’s Handbook: Recreating Prehistoric Animals in Art*. The Crowood Press, Ramsbury, England.