

# A CONVOLUTED DINOSAUR

**A**T THE END OF JANUARY 2015, British newspapers reported that “Dippy,” a plaster cast of the skeleton of the sauropod dinosaur *Diplodocus carnegii* that had dominated the central hall of London’s Natural History Museum since 1979, was going to be replaced by the skeleton of a blue whale, suspended from the ceiling of the hall. What would happen to Dippy the *Diplodocus* initially remained unclear, and various ideas circulated, including putting it in a glass case in front of the museum or having it tour the United Kingdom. From the outset, reactions to the museum’s decision were mixed but outspoken, which explains why the museum had evidently attempted to orchestrate the publication of the plans as much as possible. One irate paleontologist even condemned the replacement as “vandalism.”<sup>1</sup>

The museum’s public relations rhetoric centered on a desire to “stay relevant” and “move with the times.”<sup>2</sup> One commentator remarked that this suggested that the story of mass extinction, such as the one that wiped out the dinosaurs, was somehow no longer relevant. Perhaps the most damning comment, however, was that Dippy was “just a copy,” as opposed to the “real” whale skeleton. As museum educator Ben Miller pointed out, that statement showed some ignorance regarding the importance of casts in the everyday practice of

both science and museum work.<sup>3</sup> But the message that was given to the public, and obviously used in favor of the replacement, was that Dippy was nothing more than a “fake”—and therefore worthless.<sup>4</sup> Worse, the word *fake* even implies malevolence, and a desire to deceive the public.

Alas, glory can be fleeting. It had not been that long ago that Dippy was a source of pride for the museum. In 2010 the museum devoted a small book to the history and biology of the *Diplodocus*, and when the BBC came by to make a five-part documentary a year later, the animal’s role was as central in the first episode as it was in the main hall. Museum curator Paul Barrett was seen to extoll the animal’s educational and historical significance—attention well warranted, because the cast, “real” or not, had been one of the most important objects in the history of the museum—an importance to which the derogatory definition “just a copy” does little justice.<sup>5</sup> But a planned refitting of the hall, and—as some suggested—a desire to clear up floorspace for corporate events, had dealt a decisive blow to what had been the pride of the museum until shortly before.<sup>6</sup>

Now, it seems, it will be the first victim of a new round of natural history museum reforms. But its fame will save the cast from the museum vaults for a while, as it is currently touring British museums as a temporary exhibit. After the tour, in all likelihood the plaster dinosaur will meet an inglorious end in the basement of the museum; meanwhile, there has been talk of a more weather-resistant cast gracing the garden in front of the museum. And yes, that would mean that in this case, a cast is to be recast. What that means for “authenticity” or “relevance” is anybody’s guess.

What makes Dippy’s fate so ironic is that it is the exact opposite of a movement still going on elsewhere. When natural history museums were outfitted with grand new buildings as part of the museum professionalization that took place during the late nineteenth and early twentieth century, large skeletons of whales had often starred as the main attraction: a suitable way to impress new visitors. And probably no display was more responsible for that than Dippy itself. Like all museum objects, the famous *Diplodocus* cast is somewhat of a paradox: its fixed state as well-preserved and motionless artifact in the churchlike setting of the Natural History Museum is at odds with the many and different meanings that have been read (and written) into it. In fact, *Diplodocus carnegii*’s seemingly static life has been rather

turbulent. To understand this dynamic, the public, social, scientific, and political context of the plaster cast must be taken into account.

Dippy has been the centerpiece of the Natural History Museum since it was moved from the Gallery of Reptiles (today's insect section) to its central courtyard, now renamed Hintze Hall. It is a plaster cast of a fossil from Pittsburgh and has been part of the museum since it was unveiled in the presence of more than two hundred British worthies in April of 1905. The exchange of casts of fossils between museums was nothing new by 1905; natural history museums had long sought to complete their fossil collections this way. After all, photographs or drawings were of limited use in conveying the physical aspects of a fossil, and traveling abroad to examine specimens remained a costly affair. For most purposes of early twentieth-century paleontological research, casts would do as well as the originals they were based on. Casts were also relatively valueless—and financially, although not scientifically, worthless. If one broke, a new one could be made, and they needn't be subject to the same ethical and practical concerns that governed the treatment of authentic fossils. For public display they were easier to work with, as mounting them required far less care than original fossils needed. Art museums had long worked with casts of objects for similar reasons. Lukas Rieppel describes casts as a “compromise medium,” but this undersells their added value. It was exactly their lack of monetary value that made them uniquely valuable to museums in other respects.<sup>7</sup>

But *Diplodocus* was different for a number of reasons. First of all, it was very big, and big was important in Europe during the Belle Époque. Often described at the time as the “largest animal ever to walk the earth,” its twenty-six meters dwarfed anything available for museum display save for whale skeletons. It was also a good deal larger than most dinosaurs uncovered up to that time. The early twentieth century was a time of huge things: grand feats of engineering, gigantic military installations and equipment, and big, bold ambition. Often, these carried nationalist overtones—for instance, when a new building needed to be compared to other, preferably slightly less impressive, structures. And although this has often been seen as an American trait, it is omnipresent in much of Western culture of the Belle Époque. Germans celebrated their zeppelins, the French the Eiffel Tower, the British their dreadnoughts and ocean liners. Outgrowing the (national) competition was seen to be important.

Still, the discovery of a giant dinosaur by the Carnegie Museum in Pittsburgh was not unique—a *Brontosaurus* skeleton discovered a little earlier and unveiled at the American Museum in February of 1905 was almost as long as (and larger in mass than) *Diplodocus*. But Andrew Carnegie’s *Diplodocus* gained unprecedented status because of the uses to which it was put and the channels that were used to publicize it. *Diplodocus*’s scientific and entertainment value (and any combination thereof) was still less important than its social and political associations, which imbued the plaster cast, normally an object of very limited value, with a different set of meanings that made it perhaps even more valuable than some original fossils. As a gift from the Scottish-born American tycoon Andrew Carnegie to King Edward VII, the London cast always carried associations with those people and the worlds they represented: “high politics” and tycoon entrepreneurship.

At the time of the donation, Carnegie, once the richest man in the world, had already spent a sizable part of his fortune in pursuit of philanthropic causes. He could alternately be a figure of admiration, loathing, and wonder, and that contributed to interest in everything he did. In subsequent years Carnegie would donate another six copies of the dinosaur to museums throughout Europe, and another one to the Museo de La Plata in Argentina.<sup>8</sup> *Diplodocus* became, without question, the most-watched dinosaur in the world and a household name, at least for a while, in many European countries. It exerted an influence on European culture that went far beyond that of other dinosaurs. For the press, both the animal itself and its connection with high politics were ample justification to exhaust itself in superlatives. Even more attractive was its ambivalence, an imbued combination of awe and ridicule. *Diplodocus* itself, although big and powerful, was also time and again emphasized as being a slow, stupid, and very extinct animal.

The first decade and a half of the twentieth century have often been looked upon as little more than a prelude to the First World War. In his book *The Vertigo Years* (2008), Philipp Blom defines it as a time of contrast, with horrific butchery in the Congo and South Africa on the one hand and great creativity and belief in a better future on the other. This was also a dynamic time, one in which the collapse of many old ways became noticeable. American tycoons, wealthy beyond belief, showed that birth no longer needed to determine one’s

life and future—if you were lucky. Ever-increasing amounts of spare time created a true leisure industry; and although one could devote one’s time to personal improvement, there were also more than enough opportunities to engage in more hedonistic activities, such as sports, concerts, or the cinema. The difference between the two wasn’t always clear-cut, either: moving pictures might provide education, while the new zoos that came into being in the new century combined the public’s lust for sensation with education.

At the heart of this new world was a scientific revolution that caused a paradigmatic change in the Western worldview. The work of Rutherford, the Curies, Einstein, Becquerel, and Freud laid a new foundation for our understanding of the world and of the human psyche. This was perhaps the last time in human history in which unfettered trust in scientific method and scientific advances could be considered commonplace, and one in which the pursuit of scientific knowledge carried a prestige it never regained. The establishment in 1901 of the Nobel Prizes marked the pinnacle of that trend: not only did it aim to give science and scientists public recognition, it also came with substantial material rewards. Furthermore, the prizes were personal, and turned their recipients into stars.

And the public wanted to be told about it. Newspapers and illustrated magazines brought not only political news but an increasing amount of other information—and science turned out to be newsworthy as well. The age’s lust for the gigantic, the outrageous, and the sensational was amply fed by the discovery of the remains of ever-stranger animals in the New World. Of course, dinosaurs had been around (under that name) since the 1840s, but the American discoveries were bigger and bolder than any before them. More importantly, they were being properly marketed, and none more so than *Diplodocus*. The reception and valuation of the fossil and its cast cannot be seen apart from developments taking place in the mass media—especially the way the press developed in different ways, depending on national and geographical contexts.

The upheaval of the Belle Époque was mirrored by turbulent developments in the press. The 1890s, often described as the “gilded age” of newspaper journalism, were followed by a period dominated by mass publications in search for as large a readership as possible. Increasingly, these sought to include a broader cultural experience: news mixed with entertainment, gossip, and prose, but also “useful”

knowledge.<sup>9</sup> But the picture is by no means uniform: the press in the United Kingdom and United States differed in important respects from various practices on the European continent. Here, the “Yellow Press” that favored eye-catching headlines over factual reporting set the tone around 1900. In France, the press enjoyed a great deal of freedom, but it was sharply politicized, like so much of public life—a politicization that had been further catalyzed by the Dreyfus affair. Radicals were pitted against clericals, conservatives against socialists, and the church against the state. Germany was different from all because it remained so culturally fragmented despite formal political unification. In effect, there was never a truly national German newspaper. Some publications might have enjoyed such a de facto status, such as the *Frankfurter Zeitung und Handelsblatt* in economic reporting, or the *Vossische Zeitung* from Berlin in the field of politics. But they remained fundamentally rooted in their local contexts. A newspaper such as the *Frankfurter* still reads like a very provincial publication apart from its financial section. Political controversies were traditionally avoided, even after censorship became laxer, leaving room for other kinds of reporting, op-ed pieces, and feuilletons.<sup>10</sup> Although the impact of American journalism in Germany was not as profound as in Great Britain, a gradual modernization of the press from the 1880s onward shows unmistakable signs of American influences. It coincides with a massive rise in circulation: *General-Anzeiger*, newspapers with mixed content, such as the *Berliner Lokal-Anzeiger*, could claim two hundred thousand copies sold. Actual readership would be much larger, since newspaper subscriptions were often shared.<sup>11</sup> Meanwhile, if we look past these technologically more advanced countries, a very different picture emerges. The Austrian and Russian presses still existed under the active oversight of the censor, which made quick and accurate reporting quite difficult. Moreover, their readership remained much more socially and economically restricted, and mostly urban.<sup>12</sup>

The forces of politics, science, representation, and media that shaped the biography of the casts cannot be seen as separated and isolated objects of study. *Diplodocus*'s prominence in the public sphere, and implicitly, also its politics, bore consequences for the treatment of the animal in scientific circles. Even by early twentieth-century standards, it was not particularly interesting from a scientific viewpoint, since many other sauropods had been known since the 1870s.

But otherwise obscure deliberations gained far more prominence now that they concerned a “famous citizen.”

Even a superficial inspection of the story of *Diplodocus* reveals a multitude of actors and interests at work. The motivator of the whole project, Andrew Carnegie, determined the initial direction and scope of the undertaking, while his natural history museum in Pittsburgh worked basically as a contractor. However, Carnegie’s interests were not always those of the museum—or rather, the museum’s interests extended beyond (for them) the narrow agenda that Carnegie had defined. Then there were Carnegie’s “partners” in the project, the heads of state he wished to influence, who sometimes had their own reasons to go along with the donation and to present it in a certain way. These communicated with their domestic museums, whose relationship with power and empire might coincide with those of the other actors—or not. Scientists working in these museums displayed widely varying attitudes toward the gift that was often foisted upon them without their knowledge or consent. Once the gifts were publicized, the printed press determined much of the response to them by the final party: the public that came to see the eventual mounted dinosaur and voiced its own opinion, either explicitly (by visiting the museum) or implicitly (by allowing the dinosaur to become a part of their common frame of reference, in whichever form).

The attitudes of all these stakeholders to the donations differed according to their own interests (in both the material and idealistic sense). They interacted with each other and were influenced by reactions from either groups—or not. In the midst of these processes, *Diplodocus* functioned as a substrate, but a very specific one. To assess its significance, it is important to include all of these factors. The *Diplodocus carnegii* of this book, then, can only be a construction, a way of understanding smaller and larger groups of people making sense of their world and their professions. They are the paleontologists, museum directors and curators, artists, and kings—but also “the public” in its various guises. And one very rich man erecting, in the most literal sense, a temple to himself and his worldview.

To understand how the public perceived *Diplodocus* in the great natural history museums—but also as images endlessly repeated in print, photography, and film—it is useful to understand it as a *meme*: a cultural concept that is spread from person to person and gains reinforcement through transmission, retention, and repetition,

eventually gaining universal acceptance as part of a common cultural framework. The term *meme* originates in 1976 with Richard Dawkins's book *The Selfish Gene*, where Dawkins describes it as the cultural variety of the gene (the biological unit of replication), with similar powers of self-perpetuation and mutation. It is important to emphasize that, for instance, a picture of a dinosaur is not a meme—but the *idea* of a dinosaur, with attached cultural meanings, can be.<sup>13</sup> A “general dinosaur idea” is shared by the masses in order to understand not only life long gone but also the current world order. But the cogs of the “dinosaur idea” also turn in other, less obvious gears. It is seen to be a vehicle for cultural diplomacy and also as the arena in which conflicting scientific paradigms clashed. All these aspects—social, cultural, political, the museum, and the scientific context—construct the many faces of *Diplodocus* and its distinct agency in different discourses. The *Diplodocus carnegii* in this book thus constitutes a network of meanings and values, involving actors and practices that are sometimes closely connected and often worlds apart.

Scholarship has focused on the intense race to excavate large dinosaur fossils that took place in America and the (sometimes unscrupulous) competition between wealthy American museums and competitors. While critics acknowledge that a copy of Carnegie's *Diplodocus* was the first dinosaur skeleton seen by millions of people in Europe, there has been little attention to the specifics of its European reception and appropriation. Many questions remain unanswered that this abstract and constructed *Diplodocus* can help us answer. What brought Carnegie to spend untold thousands in order to ply European heads of state with plaster dinosaurs? Where did it fit in with his patchwork of philanthropic enterprises? Biographers of Carnegie usually only mention the *Diplodocus* campaign in passing; within the wider framework of Carnegie's philanthropic empire, that is probably justified. However, there was a definite purpose to the whole affair, and one that was frequently misunderstood even by the protagonists of this story.

Then our attention must be directed to the other side of the ocean: what made this animal and this cast so appealing to European audiences? And what happened to the public's understanding of the history of life once one plaster dinosaur was followed by another, and then yet another, until no fewer than seven of Carnegie's behemoths filled natural history museum halls on the continent?



Behind these questions lies an attempt to give a more balanced picture of the fascinating history of vertebrate paleontology. By and large, there has been comparatively little “serious” writing about its history at all in the past decades—most historical descriptions were written in a different context, often as side notes to more technical texts. But inspection beyond the well-known narratives of Cope and Marsh’s “Bone Wars” and Victorian “Dinomania” reveals that the history of paleontology is much richer, and more diverse, than those canonical histories suggest. Moreover, it was very much an international discipline from the outset. American scholars were well aware of developments in continental Europe, Great Britain, and South America—and vice versa. Many poles influenced one another, and though there were certainly dominant centers, these varied over time and across subdisciplines. And certainly by 1900, it was also a collective enterprise: rather than Edwin Colbert’s individual “great dinosaur hunters,” we see the work of groups of scholars and artisans, organizations, and schools of thought.<sup>14</sup> We’re really only beginning to discover how much of a “normal” science paleontology really was from a very early stage, rather than the Indiana Jones-ish activity that it is still often portrayed as.

Particularly, European paleontology has not received anything near the attention it deserves: a biography here and there, the odd introduction in a museum history or a paleontological monograph, that’s about it—and I’m not even talking about African, Asian, or Australian paleontology. There have been some incidental “islands” of investigation: the Tendaguru excavations in former German East Africa are now receiving their share, the rise of paleobiology has been well covered, as have the *Iguanodons* of Bernissart. But even though there is more attention for these untold stories than ever before, we’re still badly lacking in basic data. Two of the ambitions of this book are to underline the international character of paleontology as a science and show an almost universal fascination for its subject.



Paleontology was largely shaped during the latter half of the eighteenth century, and named as a discipline around 1825 by Georges Cuvier’s pupil Henri de Blainville.<sup>15</sup> But interest in fossils goes back

much further. Those animals that we nowadays call “mythical” were an important part of human everyday reality for the largest part of our history. Much of the basis of this myth seems to have been created by fossils, the petrified remains of animals and plants. But the discovery of fossils also created curiosity. The Greek historian Herodotus, writing in 500 BCE, already noticed “bones and spines in innumerable quantities, heaped in mountains, large and small” in Egypt—a possible reference to fossils. Fossils were commonly identified as belonging to giants, unicorns, and griffins, but also to historical figures and (demi-)gods.<sup>16</sup>

As a discipline, paleontology sits in between the analytical sciences and historical disciplines such as history itself, archeology, and geology, with which it has traditionally been intertwined. Its central task is the reconstruction of past life, mostly (but not exclusively) using fossils as its source material. In modern times, paleontology has often been linked to debates around the age of the Earth, the immutability of creation, and the development of life. The relationship between paleontology and Darwin’s theory of evolution is still hotly debated, but it is difficult to draw a uniform picture, since it has developed rather differently in different countries and at various institutions.<sup>17</sup> While some interaction between paleontology and biological disciplines has always been present in the Anglo-Saxon world, in the Germanic sphere paleontology tended to be regarded as a subdiscipline of geology, both functionally and hierarchically. Consequently, developments in biology were not always seen as relevant for their own field by paleontologists. It took until the 1970s for paleontologists to move away from traditional comparative anatomy into other methodologies derived from far more nested sister disciplines such as biogenetics, population genetics, ecology, physiology, and phylogenetic taxonomy. It was not until the first decade of the twentieth century that a more integrated view of the study of fossil life, which took in factors such as ecology, was considered by paleontologists such as Otto Jaekel and Othenio Abel. But for a long time, such discussions suffered under a lack of finances and personnel and organizational restraints.

While other disciplines further diversified their methodologies over the final decades of the nineteenth century, paleontologists continued to work in a way that differed little from the practices introduced by Cuvier and Richard Owen. Paleontology was still an activity

in which experience, intuition, and, sometimes, educated guesswork played a large role. It was therefore hardly surprising that many orthodoxies could be perpetuated without much in-depth treatment—because authority still carried a lot of weight, because priorities of the people working on fossils often lay elsewhere, and because the number of active scholars was so limited in absolute terms. Many continued to regard themselves primarily as “fossil hunters” or museum workers. Historically, paleontology has always been something of a scientific “luxury item,” a field with few immediate practical applications; its heydays therefore tend to coincide with times of economic prosperity, when “pure science” is stimulated. Because of this, and the various problems in establishing itself as a separate field, it took rather a long time to gain academic establishment; even today, there are few chairs specifically dedicated to paleontology.

The flip side of that delay has been that for a long time, and in sharp contrast to virtually every other discipline in the sciences, paleontology remained relatively accessible to amateurs and the wider public. Amateur involvement has always played a large role in the field and continues to do so until this day. As a consequence, vertebrate paleontology has branded itself as a discipline that originates in the pioneer-explorer spirit of the American West. Today, the way in which the science is portrayed in news media—but also by those who conduct it—is testimony to this view. It is, up to a point, still considered to be a *macho* activity, one that takes hardships in its stride, where people sacrifice themselves for science. Modern portrayals of paleontological work, such as the opening scenes of the 1993 Hollywood blockbuster *Jurassic Park*, differ little from the paintings that Arthur Lakes created around 1880. This image of hardened warriors for science has led to a conscious and subconscious identification with seminal periods in the science’s history. Until a few years ago, any superficial observer of the history of dinosaur paleontology might have come away with the idea that only two periods mattered: the discovery of the first dinosaurs in the first half of the nineteenth century, and the “bone wars” that shook American paleontology in the latter half.

The extensive works of authors such as Adrian Desmond and Martin Rudwick have tended to reinforce that impression, not so much because of what they wrote, but through their prominence in the historiography of paleontology and the absence of other narratives.<sup>18</sup> It is an impression that also lives on because of the longtime scarci-

ty of original research and the use of history by paleontologists by way of introduction for primarily paleontological works, which tends to reproduce and thus reinforce received and outdated narratives. Some works have appeared that attempted to place paleontology in a wider historical framework, but their influence has been limited. Other general histories of paleontology that attempted to give a more balanced picture have been few and far between, injected their own prejudice, or were published in small circulation.<sup>19</sup> Because of the dominance of English-language works, both works and sources in other languages tend to get overlooked, affirming the old Anglo-centric perception.

In addition, apart from a few episodes, paleontology of most of the early and middle twentieth century has remained uninvestigated until recently.<sup>20</sup> But in the last decade or so, a few efforts have been made to rectify this situation, and historians of science have accessed sources that have stayed under the radar for far too long. Rather than indulge inclusively in the telling and retelling of “grand narratives,” they have focused on the details of paleontological exploration, preparation, and presentation. Simultaneously, a flurry of popular works has been published that involve the history of paleontology, and although some are very good, others continue to recycle the myths of yesteryear.

Fortunately, rather than restricting themselves to a purely intrascientific view, almost all of these studies have taken a broader perspective, incorporating intellectual, philosophical, social and economic contexts that helped to clarify developments not only in paleontology but also between paleontology, other academic and museum disciplines, and the outside world. One of the conclusions of this body of work has been that in the long run, the perceived “golden age” of the 1870s and 1880s might not in fact have been so “golden” after all. Certainly, the bone wars between Othniel Charles Marsh, a professor from Yale, and his Philadelphian foe Edward Drinker Cope provided paleontologists with enormous quantities of source material. But the effort required to collect it went at the expense of other considerations.<sup>21</sup> Marsh and Cope’s exclusive attitude effectively prevented detailed study—they simply didn’t have the time, while those that might have were barred from working with their material. What remained was the impression of an activity dominated by egomaniacs with little academic merit.

Chris Manias and others have shown how much paleontology depended on the international exchange of objects. During the “Second Jurassic Dinosaur Rush,” as John McIntosh has termed it, much changed in the organization of virtually every aspect of paleontological work, including collecting.<sup>22</sup> Rather than relying on a system of commercial trade, or accepting whatever was left by academic researchers, institutions increasingly funded and organized their own expeditions. This was not a uniform development, however. Factors such as the availability of remains and the ease by which they could be recovered, the presence or absence of a domestic infrastructure of collectors, and the availability of expertise all played their part. More than any other institution, it was the large, urban natural history museum that grew into the self-evident catalyst of investigation, expedition, and exchange.

The relationship between objects and people has received scholarly attention from a number of quarters in recent years, particularly in the field of museum studies. Chris Gosden and Yvonne Marshall’s concept of a “cultural object biography” attempts to investigate the evolution of meaning attributed to material objects.<sup>23</sup> While this would seem to be an attractive concept by which to tie an object such as *Diplodocus* to a wider narrative, the problem we face is that there seems to be more than one concurrent evolution going on in this case. Also, such histories are not really part of the object “as container of historical information”; on the contrary, these accounts have been in each other’s way, strengthening or obscuring one another according to the different contexts in which the object has functioned. We will see that *Diplodocus*’s meaning as a political object is often more or less separated from its scientific significance, and both can show development independent of one another, as we saw recently with Dippy in London.

The second objection to applying the idea of an object biography to *Diplodocus* involves the issue of agency. Samuel Alberti is loath to attribute “too much power to the things themselves”; rather, “material culture was acted *upon*.” While *Diplodocus* remained as dead as it had been since the Jurassic, a case can be made for regarding the skeleton and its associated parts—Carnegie and the involvement of the Carnegie Museum—as a node in a network of meaning and influence or one complex “social object.” We then see that *Diplodocus*’s meanings and values are stabilized and repeated in a

powerful object, which has actually been quite influential. In other words, it is impossible to see our object as something distinct from its constituent parts, which makes a solely object-centric approach problematic.

This does not necessarily mean that we should dismiss the biographical idea altogether; after all, the element of agency in the connected network could be taken into account sequentially. This seems to connect to what Igor Kopytoff has named a (similar-sounding) “cultural biography of things” as a way of mapping the underlying sociocultural complexity of a history such as that of Carnegie’s dinosaur.<sup>24</sup> Where Kopytoff and the followers of the biographical approach are often structuralist in their object analyses, Clifford Geertz introduces the more interpretative or anthropological concept of a “thick description.” Geertz mainly uses his model to move from “local truths to general visions” or “wall-sized culturescapes” in describing ethnological issues by integrating and specifying as many details and meanings as possible. He characterizes its opposite, a “thin description,” or a factual description devoid of interpretation, as an unsatisfying account that often boils down to a systematization of earlier (and possibly prejudicial) interpretations.<sup>25</sup> In Geertz’s view, a continuing commentary and interpretation can serve to penetrate the external significance of an object. The advantage is twofold. First, such a commentary exposes the writer’s viewpoint and can be extracted from its subject. In addition, complex structures of meaning require interpretation in and of itself, and for knowledge to proceed the combination of such interpretations is crucial.

An example of such a “thick description” applied to the history of science is Klaus Hentschel’s treatment of the Einstein Tower in Potsdam, in which Hentschel incorporates various components in order to understand a full narrative, and emphasizes that each is crucial to understanding the whole picture.<sup>26</sup> The same is the case here: in order to understand the political dimensions of the gift, it is necessary to understand the dinosaurs’ popular appeal. And to make sense of its political implications, insight in the combination of its philanthropic and cultural dimensions is important. The interconnected domains of study strengthen the understanding of *Diplodocus* as a dynamic discursive object that stretches far beyond that single stable plaster cast at the British museum of natural history. In the period of 1902 until 1914, the *Diplodocus* cast as a discursive object functions

as a node of the worlds of science, politics, enterprise and popular culture. It incorporates the many elements that made this time, its politics, its science and its public opinion emphatically tangible.



This history of the *Diplodocus carnegii* cast and its brethren in museums across Europe and South America is therefore not merely a chronological account of the whereabouts of a well-defined plaster museum object. It attempts to understand how Carnegie's series of casts—and the political gesture of his donations—turned that cast into a contested and open-ended object that existed at the crossroads of several interacting (social, political, cultural, scientific) domains. However, I will treat *Diplodocus's* story roughly chronologically (and consequently also geographically) as a series of consecutive and comparative events in an attempt to point out the complex interplay of separately motivated people and organizations. This approach will help to explain longer-term developments that might become more difficult to interpret if part of a more thematic approach.

If we were to apply the terminology of police procedural fiction, this story contains a plot and several subplots consciously woven throughout. The main substance of this book is about the way in which the plaster cast dinosaur, donated by an American tycoon, was received in various museums and capitals in Europe, and how it found its way into the scientific, popular, and political world of those countries. In the background of that narrative, related stories play a role: the relation between this reception and the donor's intentions and motivations, or lack thereof, and the way in which these objects were treated as scientific substrate. Elsewhere, however, I have tied minor topical issues to the cases in which they occurred for the first time, or where they appear to have been most significant. Not everything is necessarily directly related to the Carnegie dinosaurs. Rather, I have attempted to demonstrate the range and depth of the meme and its significance for popular and scientific culture.

This book first considers the paleontological and social context that defined the reception of dinosaurs in general and enabled this particular one to become such a desirable object, both for its donor and the people who received it. It will then explore Andrew Carnegie's original donation to London, the motivations that pro-



voked him to attach his name and his fortune to this initiative, and the initial reception it received. It then moves to examine the more profound reaction to Carnegie's donations in Germany and France, where *Diplodocus* arguably exercised its greatest influence on popular and scholarly opinion. At the same time, the non-Carnegie *Diplodocus* in Frankfurt shows how the struggle between competing American museums found its way toward European donations. Chapter 5 chronicles the donation of the French cast, which forms the best example of the way in which Carnegie's casts could have longer-lasting cultural effects.

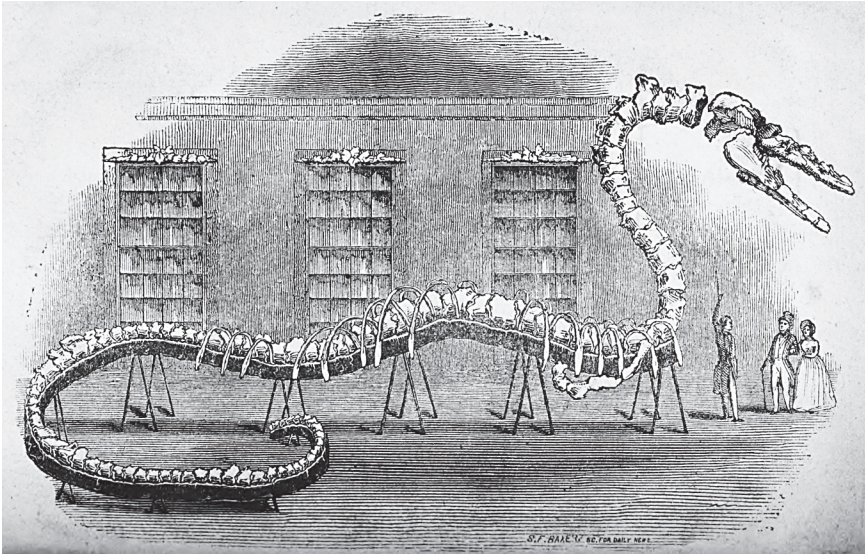
In a (geographical) way, chapter 6 also shows how *Diplodocus*'s fame made it a focal point for scientific discussions and addresses the wider point of the relationship between popular culture and the popular perception of scientific work. It does so by treating the scientific discussion that arose around the issue of the dinosaur's posture and mode of locomotion in life. This controversy played out over a number of years and involved actors from various countries; to pigeonhole this issue as part of one particular donation would not do it justice. Therefore, both the Berlin and the Frankfurt *Diplodocuses* are of particular interest to this inquiry, since they stirred an international *scientific* debate on *Diplodocus*, where viewpoints became framed as part of national and disciplinary traditions that did not necessarily have a great deal to do with the animal itself. Early on, someone emphasized that scientifically it was not the most interesting animal in the world. But perhaps that generic quality was part of its appeal and allowed other meanings to dominate over its scientific significance.

Finally, the book discusses the remainder of Carnegie's *Diplodocus* donations to various European powers and the diminishing impact of these gifts. By this time, extraordinary though the appearance of dinosaurs in museums might have remained, even the unveiling of a huge, twenty-six-meter dinosaur had become almost routine. I will look at one marked exception in the form of Spain and assess *Diplodocus*'s march from the unique to the (relatively) commonplace.

Over the course of this story, what will become apparent is how Carnegie's *Diplodocus* was part of a multitude of contexts: a political one, in which a wealthy patron sought to enhance his own scholarly reputation and bring about world peace, all at once; a nationalistic one, with American and European scientists fighting for the right



to dominate the study of an enigmatic set of creatures; a scientific one, where scholars tried to change the very identity of the science of paleontology; and an organizational one, where museums were used in service of the state and attempted to exploit that fact. What they all have in common is the focus on a famous dinosaur, a boundary object that combines its scientific prominence with its identity as a famous political and public persona, and which for a time offered a unique chance to all involved of fulfilling ulterior agendas.



**Fig. 1.1** • Koch's *Hydrarchos harlani* exhibit. Source: Albert C. Koch, *Description of the Hydrarchos Harlani (Koch), a Gigantic Fossil Reptile Lately Discovered by the Author in the State of Alabama*, 2nd ed. (New York, 1845).