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Wonder, Empire, Science: The Quagga and Other Extinctions on Display at Naturalis

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Abstract

Naturalis, the Dutch national museum of natural history, celebrated its bicentennial in 2020 by launching the special exhibition, *Nature's Treasure Trove*, featuring 25 'crown jewels' from the collection – of which five are extinct. As a celebratory look back on the museum's history of collecting, the exhibition navigates tensions between national culpability and national pride: culpability for colonialism and species loss, and pride in the Dutch tradition of scientific discovery. We argue that the exhibition can be seen as an exercise in repurposing a cultural memory that is essential to Dutch national identity, in a world that can no longer ignore the harm done by humans, including the Dutch.

Key words: extinction, natural history, quagga, cape lion, Naturalis, wonder.

The Naturalis Biodiversity Center, located in Leiden, the Netherlands, is home to one of the largest natural history collections in the world. Founded by royal decree in 1820, it began its institutional life as the *Rijksmuseum van Natuurlijke Historie* when the Dutch King William I decided that the new Dutch nation (established in 1815) should boast a natural history museum to rival those in Paris, London, and Berlin. Since then, it has grown from a collection of some 10,000 objects to one of more than 42 million, making it one of the world's top five natural history collections in terms of the size and range of its holdings. For much of its history, the museum focused primarily on scientific research, granting only limited access to non-academic visitors. In 1998, however, it opened its galleries to a broader public under the new name, 'Naturalis' ('Biodiversity Center' would be added in 2012). Today the museum is housed in an imposing (and recently renovated) modern building on the outskirts of Leiden's quaint, canal-lined city centre, not far from the biological-sciences campus of Leiden University. Each year over 400,000 visitors visit the lively exhibition spaces, which share the premises with research laboratories employing over a hundred scientists, many of whom engage directly with the public (Holthuis 1995 and 2001; Schilthuizen and Vonk 2020: 86; De Ruiter 2020: 73-7, 143).

To mark its bicentennial, in September 2020 Naturalis opened the exhibit *Nature's Treasure Trove: 200 Years of Naturalis* (*Van onschatbare waarde: 200 jaar Naturalis*), featuring 25 'crown jewels' from the collection, many of which had never been publicly shown due to their exceptional value or vulnerability. King Willem-Alexander, the current Dutch monarch, kicked off the celebrations at a 'Gala for Biodiversity', where museum leaders emphasized the significance of the collection for researchers and scientists mingled with national celebrities like Dutch astronaut André Kuipers. Despite regulations on crowds and social distancing due to the COVID-19 pandemic, the exhibit made a splash. Newspapers reported in glowing terms about the many remarkable objects on display, from the finches collected by Darwin in the Galapagos Islands in the early 1830s, to the 'last quagga' which perished in Amsterdam's Artis zoo in 1883, to the sixteenth-century En Tibi herbarium, one of the oldest collections of dried plants in the world (Detiger 2020; Venhuizen 2021). On its website, Naturalis enthused about its own 'impressive history' and 'collection of which everyone in the Netherlands can rightly feel proud'.¹

But pride and praise had their limits. In early December, the Leiden chapter of Extinction Rebellion led a group of fifteen environmental organizations and eight scientists in penning an open letter to Naturalis director Edwin van Huis. In it, they reproached Naturalis for failing to devote more attention in its permanent exhibition spaces to the current biodiversity crisis. Despite the institution's name and lofty rhetoric, the letter charged, Naturalis seemed unwilling to acknowledge 'the mammoth in the room': namely, the sixth mass extinction (Extinction Rebellion Leiden 2020).² In a written response, Edwin van Huis explained that there are many ways to draw attention to the current climate and biodiversity crises. While activists may take a confrontational stance, Naturalis opts for an accessible approach befitting its role as a national museum and research institute. 'We are here for everyone, for all the Dutch', he reminded them. 'No matter your background or political perspective, love for nature... is an emotion we want to use to reach everyone'. Quoting David Attenborough, he went on: "'No one will protect what they don't care about; and no one will care about what they have never experienced'" (van Huis 2020b). The activists of Extinction Rebellion remained unpersuaded. In a follow-up opinion piece in the *Leidsch Dagblad*, they declared that 'a biodiversity centre that gives no attention to the biodiversity crisis is a not a museum – it's a mortuary'.³

The exchange between Naturalis and Extinction Rebellion raises important questions about the role museums play in relation to contemporary environmental crises. It also highlights the choices curators must make in presenting natural history objects to broad (national) audiences. In *Nature's Treasure Trove*, a complex set of narratives is brought together about the museum, the Dutch nation, and the way both have related to the natural world. In this article, we examine how the museum attempts to reconcile tensions between national culpability and national pride, and between past crimes and future promises.

As we will discuss below, the exhibition space shows a strong resemblance to the *Wunderkammern* of the early Modern period, emphasizing and celebrating the long and important history of the museum. And as in these earlier collections, the observer is invited to marvel at the objects, which are shown to be unique, rare, exotic or seemingly preternatural, all qualities that would have elicited a sense of so-called 'wonder' in the early Modern collector. This feeling of wonder, discussed in more detail below, was the essence of the *Wunderkammer* collection and it is partially reconstructed here in *Nature's Treasure Trove*. But the exhibit also recognizes that, from the vantage point of the twenty-first century, an early Modern experience of wonder is no longer possible. On the one hand, the colonial project that facilitated and structured centuries of Dutch collecting has left a painful legacy that demands recognition (and, many would argue, reparation). On the other hand, of the 25 objects on display, five are animal specimens that are 'wondrous' in part because they are now extinct – and thus symbols not only of priceless value, but also irreparable loss. How does the museum make room for the unambiguously sad and disturbing memories of extinction events, such as that of the quagga, while preserving and celebrating memories of Dutch collection practices and national identity?

Nature's Treasure Trove anticipates visitors' mixed emotions and responds with a deft recovery narrative whereby earlier modes of wonder, steeped in the Renaissance curiosity cabinet or in seafaring adventures of the nineteenth century, are transformed through the upbeat vernacular of scientific discovery. Aiming to reach a broad audience, the exhibition retains a proud cultural memory of early Dutch explorers and collectors, while acknowledging (though sometimes only obliquely) the damage done to colonized peoples and to life on our planet. Colonial history and human-driven ecological destruction therefore hang in the room, but the visitor is repeatedly reminded that, thanks to the astonishing richness of Naturalis's collection, Dutch scientists have the resources they need to develop promising solutions – and thus hold the keys to a brighter future.⁴

In the end, the exhibition can be seen as an exercise in repurposing a cultural memory that is essential to Dutch national identity, in a world that can no longer ignore the harm done by humans (and by particular groups of humans, including the agents of empire). And as we shall see, the paradox of combining these aspects is most acutely visible in the display of extinct and threatened species. After a brief analysis of the exhibition and its relationship to the tradition of the Renaissance *Wunderkammer*, we turn our attention to three animal-objects in particular: the quagga, the cape lion, and the orangutan. Chosen for their distinct

historical and biological contexts, in relation to Dutch colonial identity as well as culpability, these specimens provide three different perspectives on the complex task of the museum.

The history of wonder

Nature's Treasure Trove sits on the top floor of the museum whose history it recounts. To make one's way to the entry, one must ascend grand staircases in a large atrium, passing several halls of the permanent collection, all of them renovated and renewed in 2019. These are aimed at families with children and the tone throughout is light and playful (De Ruiter 2020: 132). On the ground floor is the LiveScience room, accessible without a ticket, where researchers practice their craft behind large 'shop windows', placing the everyday scientific work of the institute on display. On the floors above, rooms titled 'Life', 'Death', 'Dinosaurs', 'The Ice Age', and 'Early Humans' (among others) present a seemingly direct view of the natural world. Captions (written in both Dutch and English) describe the species on display, explaining their living habits and role in environments and ecosystems. The history of the museum and the provenance of the diverse objects barely feature and most taxidermized specimens are seen to simply represent their species and to form part of a larger narrative of biodiversity. This is true especially in the 'Life' room, where no captions are used and visitors find themselves surrounded by animals of all sizes and types, from cheerful penguins to elegant giraffes to a menacing white shark, suspended from the ceiling. By contrast, the objects in *Nature's Treasure Trove* are brought together principally to illustrate the history of the museum's collection and the explorers and collectors who established it. The tone is serious and reverent, and the narrative is aimed at the adult visitor. Animals, plants, and minerals are presented as unique treasures, each accompanied by its own personal story. Rather than function as synecdoches for their species, they are singular, marvellous rarities, deserving of admiration.

As Naturalis director Edwin van Huis writes in the exhibition catalogue, *Nature's Treasure Trove* takes the visitor back 'to the origins of collecting: wonder' (Van Huis 2020a: 7). Although the museum itself was founded only in 1820, its roots (and certain of its prized specimens) date back to the Renaissance tradition of the *Wunderkammer*: magnificent galleries modelled on classical encyclopaedic texts such as Pliny's *Historia Naturalis* (Findlen 1989: 60; Chicone and Kissel 2014: 16). Over the sixteenth and seventeenth centuries, as European powers explored and sought dominion over new overseas territories and peoples, these collections evolved in response to a desire to categorize, and thus understand and control, a complex and ever-expanding world (Findlen 1989: 66-8; Schulz 1990: 205-8; Greenblatt 1991: 14; Lidchi 2013: 125; Chicone and Kissel 2014: 16). In pursuit of encyclopaedic knowledge, collectors constructed microcosms intended to reflect the splendour and diversity of the macrocosm created by an omnipotent God. These collections were not representative of the entirety of God's creation, but focused instead on the exceptional and anomalous, objects which dazzled and astonished observers (Findlen 1989: 63; Daston and Park 2001: 272; Lidchi 2013: 125). In the enclosed space of the *Wunderkammer*, the scholar would contemplate the meanings of the widely diverse objects, chosen for their opulence, rarity, exceptional craftsmanship, exotic provenance or supernatural qualities (Daston and Park 2001: 273; Poliquin, 2012: 14-6).

Enlightenment philosophers considered wonder a foundation for both scientific enquiry and religious contemplation. In the words of Descartes, wonder represented 'a sudden surprise of the soul which makes it tend to consider attentively those objects which seem to it rare and extraordinary' (Descartes 1642 [1989]: 70). But the *Wunderkammer* was, first and foremost, meant to dazzle, and thereby enhance the status of its owner; princely collections signalled wealth and imperial power, while scholarly ones signalled knowledge (Findlen 1989: 69; Daston and Park 2001: 266-7). During the scientific and technological revolutions of the eighteenth and nineteenth centuries, however, *Wunderkammern*, with their eclectic collections and emphasis on 'unscientific' emotions of admiration and religious awe, gradually fell out of favour (Delbourgo 2017: xxvii). In their wake came national institutions like the British Museum and France's Muséum National d'Histoire Naturelle, which jettisoned private wonder – now seen as vulgar – and instead emphasized public education based on scientific principles (Daston and Park 2001: 14-5, 328; Bennett 2006: 273-4).

In recent decades, amidst revived public interest in *Wunderkammern*, more natural history museums have begun to highlight the origins of their collections (Delbourgo 2017, xxvii). The Smithsonian National Museum of Natural History, the Houston Museum of Natural Science and the National Museum of Ireland (amongst others) have all actively modelled exhibition spaces on the design of the *Wunderkammern*. With *Nature's Treasure Trove*, Naturalis can be seen to follow this same strategy.

The Treasure Chamber

This brings us back to our special exhibition.⁵ The treasures of the collection are housed in a gilded structure placed in one of the museum's regular exhibition rooms. Although one can see this *Schatkamer* or Treasure Chamber (both Dutch and English are written over the entrance) when entering the exhibition space, the treasures are not immediately accessible. A long queue snakes its way to the enclosed exhibit and guides visitors past a series of eighteen suspended panels. Each one features a large-format photograph of a Dutch celebrity posing with one of the museum's treasures, accompanied by an interview text about the object. The panels serve to keep visitors occupied during the long wait (30 minutes from the start of the line) and build anticipation for the treasures to come. The featured stories also bring the objects into the present, sometimes in the form of the personal interests of the interviewee, and sometimes by referring to topics such as climate change and biodiversity loss. While astronaut André Kuipers waxes poetic about a precious meteorite, speedskater Esmee Visser likens her speed upon the ice to that of the (now extinct) great auk, who once swam beneath it. Meanwhile, weatherman Peter Kuipers Munneke poses in beach attire beside a preserved polar bear, a poignant 'symbol of how humans treat nature' (and one of the few photographed treasures not featured in the Treasure Chamber itself).

At the end of the line, the visitor arrives at the small structure that houses the 25 most valued treasures of the museum. The facade is a golden version of the exterior of the museum's storage tower, which stands next to the museum and is not open to the public. The little *Wunderkammer* presents itself as a temple of marvels and this impression becomes stronger once inside. The space is completely dark, except for a strip of floor lighting and small spotlights on the objects. Like the cella of the ancient temple, the space feels sacred, containing the gifts to the gods, collected and cared for by the priests and respectfully admired by the public. The objects themselves are dimly lit, but buttons next to the captions allow the visitors to temporarily activate stronger spotlights.

Apart from the space and lighting of the room, the selection and display of the individual objects add to the impression of entering a *Wunderkammer*. Each object is characterized by at least one of the features that were so highly prized by early collectors. They are, by turns, *unique* (several type specimens are on display), *rare* (an isopod from the deep ocean), *exceptional* (the preserved skin of a giant ground sloth), *exquisitely crafted* (a remarkably lifelike taxidermy of an orangutan) or *preternatural* (a 'mermaid's rib'). Among this list of criteria, *extinction* also features significantly as an awe-inspiring characteristic. Extinction has made the object rare and almost other-worldly; we are faced with the trace of a species we will never be able to see alive and this realization adds not only to its cultural value but also to its monetary value. When it became clear in the nineteenth century, for instance, that the great auk had become extinct, the cost of taxidermized individuals of this species went up steeply (Miracle and Monquil-Broersen 2020: 48).

Unlike the open displays used for most of the objects in the rest of the museum, the items in the Treasure Chamber are all presented behind glass. Although the simple explanation for this lies in their vulnerability and value, it influences the way we perceive them. Objects in open displays (like the animals in the 'Life' room of the museum, mentioned above) are felt to be representative and part of everyday life; the method of displaying reduces the perceived distance between the object and the visitor (Lidchi 2013: 147; Brenna 2013). Objects behind glass, on the other hand, appear singular and valuable and their distance to the visitor is increased. They are not here to represent life in a general sense, but to tell small, unique stories about themselves.

In the Treasure Chamber, these stories are connected to the history of the Netherlands

and the museum, from insects collected by a Jewish entomologist in the Westerbork concentration camp during WWII, to an auk egg owned by Coenraad Jacob Temminck, the famous ornithologist and first director of the museum, to Arabica coffee beans from the Dutch colonies shown at the 1883 Export Trade Exhibition. Wall texts and captions reconstruct the original sense of wonder attached to these objects, but at the same time shift the perspective to make room for modern insights as well as feelings of culpability, moral responsibility and loss. In doing so, a strong focus on scientific progress is introduced throughout the texts.

The museum's possession of objects with ambivalent provenances is consistently justified by the objects' value for contemporary scientific studies.⁶ Dutch imperial networks may have made Naturalis's collection possible, but the captions promise that questionable ethics are a thing of the past. And while biodiversity loss casts a shadow over certain objects, their interpretation by the museum assures the visitor that this can be fought back by the scientific breakthroughs of Naturalis researchers. This hopeful message allows the museum – and by extension the Dutch – to retain a prideful memory of the collection and its origins, despite knowledge of the harm done by humans. A closer look at three of the displayed animal-objects provides different understandings of the relationship between extinction events and the cultural memories that underlie national and museum identity.

The last quagga

On Sunday 12 August 1883, the morning report at Artis Zoo in Amsterdam read: "Deceased, 1 *Equus quagga*". The name "quagga" was derived from the barking sound made by the animal. This unusual zebra, however, would make no more sounds. Its death marked the extinction of the quagga...

This is the first of two paragraphs that make up the English caption accompanying the quagga. The animal, a female, stands in a corner of the Treasure Chamber and gazes directly at the visitor. From the caption's English title, '[t]he last quagga', we can tell that this is no regular specimen, not one among many. She is believed to have been the last of her kind. She is the endling whose death meant the demise of a complete species. However, the caption continues:

We now know that the quagga was not a separate species, but a subspecies of the common zebra. Through selective breeding, scientists are in fact today able to recreate a quagga with its red-brown coat.

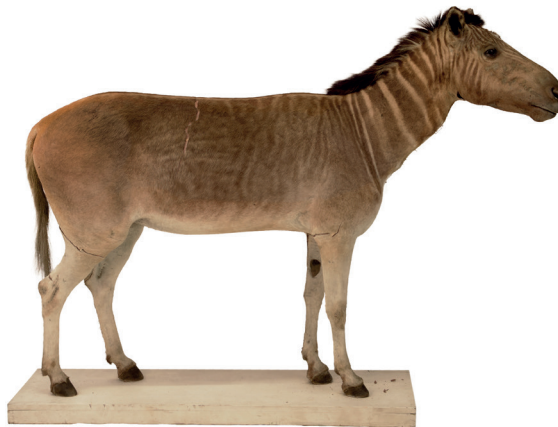


Figure 1. The last quagga. Photo courtesy of Naturalis Biodiversity Center.

Where the tone of the first paragraph is emphatically emotive and sad, the second paragraph is more optimistic. It presents us with two ways in which science has seemingly mitigated the loss of the quagga (in the Dutch caption, provided next to the English one in the display, the second sentence begins with '[b]ovendien', meaning 'furthermore'). First, progressive insight into the taxonomy of African zebras has taught us that this is no distinct species. The caption seems to suggest that this reclassification of the animal (further explained below) has softened the blow of its death by 'undoing' the true extinction event; in other words, no complete species has disappeared with the death of this one quagga. In addition, even the subspecies is not completely lost, the caption tells us. In this *Wunderkammer* the message seems to be: what nature has created and man has lost, science can restore. The wording of the caption perfectly illustrates the balance between wonder and culpability, achieved through a focus on science, that characterizes the exhibition. A closer look at the history and presentation of the quagga can help us better understand this strategy.

The 'discovery' of the quagga by Europeans was facilitated by the Dutch East India Company (*Vereenigde Oostindische Compagnie*, or VOC), which established its Cape Colony in 1652 as a supply station on its trading route to Asia. The quagga's appearance puzzled Dutch settlers and led to much taxonomic confusion. At first sight, it looked like a combination of zebra and horse: the head and neck were striped like those of the zebra, but around the shoulders the stripes disappeared, fading into a chestnut-brown back and white belly and legs. The peculiar animal lived in the Karoo, a region of about 400,000 square kilometres near the southern Cape (De Vos 2014: 33). With the arrival of the VOC, the expansion of settler farms quickly transformed the Karoo. The Dutch fenced off large parts of the grazing lands for their cattle, limiting the range available to the quagga (De Vos 2014: 34; Spreen 2016: 95-7). And after failing to domesticate the mysterious animals, the settlers took to killing them, both for their desirable hides and as a source of food for Indigenous workers, whose labour had been forcefully requisitioned after a series of bloody wars. The drastic changes in habitat and the active hunt quickly diminished the population (*The Spectator* 1886: 1651; *Scientific American* 1901: 281; Hughes 1988: 95; Heywood 2013: 54; De Vos 2014: 34-6; Spreen 2016: 95-7).

Some animals, however, had been taken to Europe by ship captains and other imperial travellers, and could be seen in zoos such as Amsterdam's *Natura Artis Magistra* (founded in 1838 and known as 'Artis'). By 1851, the zoo had a few quaggas on display, to be joined in 1866 by the animal that would eventually be exhibited in *Nature's Treasure Trove* – the result of an exchange with a zoo in nearby Antwerp (De Vos 2014: 31; Spreen 2016: 11). While the mare lived out her days in the relative peace of the Dutch zoo, her kin disappeared from the African plains. When she died, she was the last of her kind. It would take decades, however, for the significance of her passing to register. In fact, Artis immediately contacted associates in South Africa to request another quagga (Heywood 2013: 54; De Vos 2014: 31). Although *The Spectator* (1886: 1651) suggested as early as 1886 that the species might have disappeared, its extinction was not officially declared until 1900, at the Convention for the Preservation of Wild Animals, Birds, and Fish in Africa (*Scientific American* 1901: 281; Pocock 1903: 357; De Vos 2014: 31; Spreen 2016: 152-3).

It is only in retrospect, then, that the mare would be seen for what she was: the ending, the *terminarch* (Spreen 2016: 12; for a cultural history of the term 'ending' see Jørgensen 2017). Hers was a double-death, marking both the end of an individual life and of a species (Guasco 2021: 1056). This dual sense of tragedy adds to the uniqueness of the animal-object on display at Naturalis and the caption emphasizes this. The sense of loss on both levels is communicated in the first paragraph, in particular through the highly emotive sentence: 'This unusual zebra, however, would make no more sounds'. She was unusual in more ways than one and her kind had been silenced by aggressive colonial expansion.

The caption starts by providing the date of the extinction event and in the literature we find repeated reference to this exact date (Harris 1998; Borroughs 1999; Itano 2003; Harley *et al.* 2009; Heywood 2013; De Vos 2014). It is not often that we can pinpoint an extinction event with such precision, both in time and in the final individual. (One thinks here of 'Martha', the last known living passenger pigeon, who famously expired at the Cincinnati zoo on 1 September 1914.) The caption zooms in on this one moment and provides no information about the species – beyond the etymology of its name – or about this individual. What is being displayed

in the exhibition is not the life of this mare, her journey to Artis, her living habits, or peculiar characteristics, but her death. In that one moment this animal-object has become a unique symbol of the layered history of the Dutch presence in Africa and the impact on its wildlife.

Identifying the precise date of extinction is both true and an illusion. While the taxon finally disappears with this mare, the process of extinction had been ongoing for two centuries prior to this summer day in 1883. Since 1873, no quaggas had been observed in Africa and it is generally assumed that by 1878 the animals no longer existed on the continent (Spreen 2016: 137). The caption paints a picture for the exhibition visitor of a lonely mare, cared for in this respectable Dutch zoo, ending her life and thus her species peacefully. It does not speak of the history of Dutch colonialism that has led to this moment. While the visitor is invited by the caption to dwell on the sadness of the death of this one animal, unaware of its own significance and utterly alone, it is the abstract sadness felt when contemplating death.

The exhibition catalogue provides slightly more information, although once again the event of her death is the main focus. We are told how the plains of South Africa were once the quagga's habitat until the arrival of the *kolonisten* (Besselink 2020: 40). Whether to avoid feelings of unease in the predominantly Dutch museum audience, or because the nationality of these Dutch colonists is presumed well-known, the general use of the word 'colonists' is notable. While the role of the Dutch in the history of this specific extinction is only referred to indirectly, the text does dwell on the role that humanity as a whole might play in future extinctions. Introducing the mare, the text asks: 'What is her message?' It concludes by explaining that 'her warning counts for two: if we do not intervene, more species will become extinct as a result of human actions' (Besselink 2020: 40). The focus shifts from the historical impact of Dutch colonial power to future consequences of human activity in general.

Another telling aspect of the catalogue entry is the emotive anthropomorphism with which the animal is described. The start and end of the text echo the display caption's sentimental tone, inviting us to identify with the lonely fate of this animal-object: 'There she stands, the mare (...). Somewhat worn, but not alone. There is a second quagga, a stallion. (...) The animals are side by side; a relationship caused by bitter circumstances, a loveless marriage' (Besselink 2020: 41). A sense of loss and sadness is explicit throughout the text, but admission of Dutch colonial culpability can be found only between the lines.

All in all, Naturalis's quagga is wondrous in its uniqueness, its rarity (remains of only 23 quaggas still exist) and its complex relationship with death. However, while the tragic nature of the object is made evident, human (and Dutch) culpability is downplayed, especially in the caption. This mitigation of human responsibility is furthered by the references to scientific progress in the second paragraph of the caption and in the conclusion to the catalogue entry, both of which highlight the animal's taxonomical classification.

The taxonomy of the quagga has puzzled European scientists ever since the animal was first discovered. Only recently, in 1984, mtDNA evidence showed with almost absolute certainty the close relationship between the quagga and the plains zebra (Higuchi *et al.* 1984: 283-4; Harley *et al.* 2009: 155; Heywood 2013: 57). The debate is still ongoing, with some studies pointing to morphological evidence which would relate the quagga to the horse (Leonard *et al.* 2005: 293). In a somewhat bizarre anthropomorphic representation of the quagga's motives, Spreen (2016: 149) describes this taxonomic muddle as follows: 'A new battle over classification commences. Here begins the grandiose revenge of the quagga. (...) it retaliates and strikes us where we are most vulnerable: in our love of definitions and classifications. The schlemiel of extinct animals triumphs'. This last phrase, *schlemiel* of the extinct animals, is also the book's subtitle and suggests that the quagga, like the dodo, was an unlucky misfit and that its extinction, however tragic, was inevitable (Heise 2016: 37-8; Guasco 2021: 1057). But it also points to the influence of human wrongdoing, which needs to be avenged.

In the caption taxonomy plays a different role, though equally tied to an emotional understanding of the extinction event. Rather than an act of revenge, the most recent taxonomic classification is presented as a restorative device: although none of the actual events of the last two centuries can be altered, the caption suggests that seen from this perspective their interpretation changes and the extinction is theoretically undone. This points to a simplified, binary understanding of biodiversity loss: a species is either still there or extinct. Although it is

true that the death of the final individual marks a drastic and irreversible transition, extinction is not a singular event, but a process. No matter how theoretically correct the most recent taxonomic insights are, they cannot give us back the quagga.

A second, more practical and literal method of undoing the extinction event comes in the form of the Quagga Project, described if not named in the display caption.⁷ When the quagga was shown to be 'merely' a subspecies of the plains zebra and no significant differences in DNA were found between the two, the taxidermist Reinhold Rau concluded that it would be possible to 're-breed' the animal. Modelling his experiment on earlier attempts to bring back lost animals (among which a politically complex cattle rebreeding program under the Nazi regime; Lorimer and Driessen 2016), he selected nine plains zebras that resembled the quagga and started a breeding program in 1987 (Heywood 2013: 55; De Vos 2014: 37; Swart 2015). Now in its fifth generation, the project has managed to significantly alter the stripes over these generations, approaching the pattern of the quagga (Harley *et al.* 2009: 157-8).

The project has received considerable media and scholarly attention, with some praising its aims and results and others strongly criticizing its scientific validity and purpose (Swart 2015). What is striking in most of these accounts is the language of redemption and guilt used to describe the project. The work is described as an attempt to 'redeem an act of wrongdoing' (De Vos 2014: 39), 'to atone for the greed that led to the quagga's extermination' (Burton 2010: 448), 'to put right a terrible wrong' (Harris 1998) and 'to correct a past human error' (Hughes 1988: 95). The tragic end of the quagga has irrefutably been caused by humans, but the ingenuity of humans may also be the key to bringing her back from extinction.

This understanding of the project as a way of undoing the extinction event is also evident in the display caption, where the sense of loss that pervades the first paragraph is offset by the second paragraph's hope of scientific salvation. But just as the reclassification of the subspecies seemed a theoretical rather than an actual dialling back of the extinction, the Quagga Project has also proven somewhat illusory. As critics point out, these newly bred plains zebras may look like quaggas, but biological classification does not rely on appearance alone. The original quagga evolved from the plains zebra during the Pleistocene and would very likely have differed from it in more than just appearance (Leonard *et al.* 2005: 294; Harley *et al.* 2009: 161). Our limited knowledge about the animal makes it impossible to breed back these qualities.

Due to its limited length, the caption cannot be expected to reflect this complicated debate. However, the assertion that 'scientists are in fact today able to recreate a quagga' seems to overstate the power of scientific research. And like the binary reasoning of the taxonomic classification, this claim seems to rely on a simplified understanding of biodiversity, summed up best in Rau's own words: 'The quagga is a quagga because of the way that it looked, and if you produce animals that look that way then they are quaggas' (cited in Boroughs 1999: 46). Taken together, the references to scientific process in the display caption seem primarily intended to counteract the sense of guilt over the possession of this animal-object.

The displayed quagga is a palimpsest of Dutch cultural memory. She reminds us of Dutch colonial history, of proud Dutch scientific explorations, of the grandeur and fame of Artis, but also of the beginnings of explicitly anthropogenic extinction events. She is both tragic and wondrous due to her dual nature: as an individual as well as a representative of her species. Through her direct and intimate gaze, she draws the visitor into the layered network of these cultural memories. Her display in the exhibition invites the audience to simultaneously experience feelings of wonder, sadness, culpability and redemption, a cognitive dissonance which is facilitated by the assurance of scientific repairs.

Extinct lion

In an opposite corner of the Treasure Chamber stands a taxidermized Cape lion, dating to 1860 and the only such specimen in the Naturalis collection. Like the quagga to his right, he stands beneath a dim spotlight and gazes at the visitor from behind glass. And like the quagga, whose habitat he once shared on the southern tip of Africa, his demise is announced by the caption title: 'Extinct Lion' (*Uitgestorven leeuw*). The caption itself reads:

Characteristic of the Cape Lion is the impressive mane on the head, neck, chest, and stomach. The Cape lion lived in South Africa, but colonisation, hunting and restriction of its natural habitat brought an end to its existence. The last example of a Cape lion in the wild was observed in 1865.

The text in this case is less emotive than that describing the quagga. We learn later in the captioned text that 'the Cape lion was probably not a separate species but instead the most southern variant of the African lion'. Like the quagga, then, this was but a subspecies: a creature to be missed, it is implied, but not a total loss.



Figure 2. The cape lion. Photo courtesy of Naturalis Biodiversity Center.

This caption is also more explicit about the relationship between the animal-object and the depredations of colonialism. Rather than focusing on a unique event in the Amsterdam zoo, it names the factors that led to the species' disappearance from southern Africa. The exhibition catalogue goes further, naming not only abstract 'colonists' but the Dutch East India Company. The catalogue entry also references the crucial connection between imperial networks and the making of the Naturalis collection itself. In addition to reprovisioning their ships on the Cape, the officials of the VOC – 'true to the Dutch entrepreneurial spirit' – also collected goods to bring back home. The catalogue explains that many of the African animals in Naturalis's depots originated in South Africa, thanks to the Dutch presence there (Van den Hoek Ostende 2020: 211). While this particular Cape lion came to the collection from the Zoological Cabinet in Utrecht,⁸ many other animal specimens were transferred from the Artis zoo, either during the early years of its friendly cooperation with the *Rijksmuseum van Natuurlijke Historie*, or when its zoological collections were merged with Naturalis in 2011 (Mehos 2006: 83; De Ruiter 2020: 71).

The Artis specimens came not only from South Africa but from across the Dutch empire, and from the Dutch Indies (present-day Indonesia), in particular. In that region, the Dutch government's Committee for the Natural History of the Netherlands Indies (*Natuurkundige Commissie voor Nederlandsch-Indië*), founded in the same year as the natural history museum, took responsibility for the scientific study of nature in the colonies. Until economic

crisis led to its closure in 1850, the Committee brought ' chests full of nature-historical and ethnographic objects ' back to the Netherlands (Weber 2019; Miracle and Monquil-Broersen 2020: 14). These state-sponsored expeditions impressed outside observers: as one English visitor to Leiden remarked in 1838, ' the use the Dutch have made of their *colonies*, for the benefit of Natural History, puts England to shame ' (cited in Mehos 2006: 80, emphasis in the original). But private connections were just as important. Throughout the nineteenth century, Artis cultivated close relationships with colonial officials, traders and other Dutch travellers willing to transport exotic animals – living or dead – back to the metropole. As the historian Donna C. Mehos has argued, their display in Amsterdam gave the bourgeois members of the then-private zoo a sense of pride in their nation's imperial *and* scientific prowess. Exotic animals, many of which had never been seen in Europe, promised deeper understanding of the natural world – all thanks to Dutch exploration and expertise. Taxidermized specimens landed in the zoo's natural history cabinet, and many eventually came to Naturalis, enriching its collection (Van Bruggen 1988; Mehos 2006).

Its handling of the quagga notwithstanding, *Nature's Treasure Trove* does not consistently sidestep the history of empire or its relation to natural history collecting. The caption for the jars of Arabica coffee beans, for example, relates them not only to the Dutch 'country of coffee-drinkers' but to the 'indelible colonial history of the Netherlands'. Here the text shows regret, admitting that people from Java, Sumatra, and Surinam were 'paraded' in 'reconstructed imitation villages' at international colonial trade exhibitions – though it reassures the visitor that 'the spirit of the times has changed'. In the case of the Cape lion, however, the caption text makes a sudden and somewhat jarring pivot away from its account of the lion's extinction. After learning that the animal was last observed in the wild in 1865, we are informed that '[i]n the Netherlands we can still see the Cape lion: three of them feature on the Royal Coat of Arms'. (In the Dutch-language version, this reads even more strongly: 'In Nederland komen we de Kaapse leeuw toch nog regelmatig tegen', or 'In the Netherlands we still regularly come across the Cape lion'.) In a single gesture, sadness over loss of the Cape lion – driven to extinction by European settlers – is seemingly allayed by the fact that we can still 'see' the lion on the national crest.

If the 'lesson' of Naturalis's quagga is that tragic loss might be redeemed through modern science and its promise of reincarnation, the emphasis in the presentation of the Cape lion is on national symbolism and pride. 'Colonisation (...) brought an end to its existence', but the animal endures as *the* hallmark of Dutch national self-representation, present on everything from football t-shirts to supermarket advertisements to the façades of prominent buildings. The exhibition catalogue's entry on the lion is titled 'The wild mane of the Dutch lion', and before relating the animal's provenance (and passing) in the Cape colony, the text first explains that Rembrandt – another Dutch national icon – famously painted the Cape lion and its 'exuberant head of hair' (Van den Hoek Ostende 2020: 211).

The iconography of the 'Dutch lion' dates to the sixteenth century, during the revolt against Spain, when bellicose lions regularly featured on coins, medals, seals and propaganda prints (Schama 1987: 70-1). Over four hundred years later, Naturalis lost no opportunity to link its bicentennial celebration to that celebrated symbol. At the Gala for Biodiversity that kicked off the exhibition, for example, King Willem-Alexander delivered his speech alongside the taxidermized lion. Viewed side-by-side beneath bright stage-lights, the two creatures appeared as kin with their manes of ginger hair, and both seemed to radiate pride: each one a symbol for the other, and for the Dutch nation itself.⁹ Meanwhile, the many billboards and advertisements announcing the exhibition also featured images of the lion, standing alone or caught in a moment of revelation under a rising red curtain. While we cannot excise Naturalis's two-hundred-year history of its darker episodes, the hoary symbolism of the Cape lion attempts to console us with the reminder that this is indeed a 'collection of which everyone in the Netherlands can rightly feel proud', as Naturalis's website proclaims. Having died for Dutch sins, the Cape lion lives on, immortalized not only in taxidermy but in the Dutch Coat of Arms.

A lifelike orangutan

A central position in the Treasure Chamber is reserved for the final of our three animal-objects,

a male Sumatran orangutan collected over a century ago in the Dutch East Indies. Flanked by the cape lion to his right and the quagga to his left, he is positioned in the middle of the wall facing the entrance. Immediately drawing the visitor's attention, he sits cross-legged, his hands resting in front of him. His head is bent slightly forward and he gazes pensively at the floor. Compared to the cape lion and the quagga, whose bodies look somewhat worn, the ape appears almost alive, despite having been preserved in 1905. The remarkable quality of the object is emphasized in the caption, which is titled 'Lifelike' (*Levenssecht*) and begins by describing the work of the famous taxidermist Herman ter Meer:

This orangutan has been part of the collection at Naturalis for more than a hundred years. It was prepared by Herman ter Meer (1871-1934), one of the leading taxidermists of the early nineteen hundreds (...) He was a master in lifelike positioning.¹⁰

Like the artificialia found in *Wunderkammern*, the animal-object is valued for the way in which the craftsmanship of the artisan has transformed a natural object, in itself already exotic and rare (Daston and Park 2001: 260). We admire the animal not just for its natural features, but for the skill with which it has been put on display. The fascination with taxidermy lies, paradoxically, in its ability to hide its own presence. According to Donna Haraway its power 'is in its magical effects: what is so painfully constructed appears effortlessly, spontaneously found, discovered, simply there' (Haraway 1984: 34).



Figure 3. Sumatran orangutan, taxidermized by Herman ter Meer. Photo courtesy of Naturalis Biodiversity Center.

In this way, the taxidermized animal becomes an aesthetic object. And while this elicits a sense of wonder, for today's visitors it is no longer possible to behold the animal-object without an awareness of the animal's precarious situation. The Sumatran orangutan is currently classified as critically endangered, with only 7,500 remaining individuals.¹¹ As in the case of the quagga and the cape lion, the start of this species' decline can be traced back to the arrival of the Dutch East India Company (Sebastiani 2019: 82-3). But while the disappearance of quagga and lion occurred long before any current visitors were born, and thus produces guilt only by proxy, the orangutan could go extinct within the next few decades, making its fate a responsibility of all of us, including the museum and its audience. Ter Meer's taxidermized exemplar is not merely intended for scientific research or protection of biodiversity, but seems designed to be exhibited and admired; how can its role in Naturalis's collection be

justified in light of the threat to the species? It is with this animal-object, more than any other in the exhibit, that the visitor must confront contemporary mass extinction.

While all taxidermized animals raise questions about collection practices, this animal does so with exceptional force. As a great ape, he is not far removed from our own species and invites emotional identification. In fact, when first discovered by Europeans, the orangutan (whose name in Malay means 'man from the forest') caused a great deal of confusion about the boundaries of the human species, and the relationship between humans and great apes continues to fascinate us (Parreñas 2018; Sebastiani 2019: 83-5). The emotional pose and facial expression of this great ape remind the visitor of human behaviour, fostering a more intimate connection and therefore making the need for justification all the more pressing.

The exhibition faces this problem head-on, by continuing the caption in the following way:

Today, the orangutan is threatened with extinction, and only animals that have died a natural death in zoos or in the wild are prepared for exhibition purposes. Not all animals are prepared in such a natural way, however. For the scientific collection, skin and bones are first separated and then stored as efficiently as possible.

Rather than ignoring the plight of the orangutan, the museum addresses it explicitly and uses the display to explain developments in collection and conservation practice. Similar explanations are found in the catalogue and the introductory text to the exhibition. The catalogue chapter on collecting starts with an overview of how exploration and collection have changed over the centuries: 'Orangutans are no longer shot out of trees (...) instead, research is done on the factors that influence the biodiversity of primeval forests' (Miracle and Monquil-Broersen 2020: 14).¹² And the wall text, which the visitor encounters when stepping inside the Treasure Chamber, assures us that the expansion of the collection is no longer 'out of greed, but out of a desire to understand how nature works'.

Although the caption clarifies the changing collection practice, the reference to natural deaths raises questions. The notion of natural death in a zoo seems an oxymoron. And even in the wild, what does a 'natural death' entail when talking about a species so threatened by human-driven environmental change? The difference between unnatural and natural death seems to be a difference between direct and indirect human intervention. *Nature's Treasure Trove* seeks to reassure us that contemporary collectors and scientists handle the orangutan with utmost care, but with shrinking habitats and direct threats from hunters, no death of an orangutan can be called truly 'natural' anymore.

Conclusion

In celebrating Naturalis's two-hundred-year history of collecting, *Nature's Treasure Trove* presents visitors with a complex set of narratives. The exhibition chamber's *mise-en-scène* evokes the Renaissance origins of the curiosity cabinet, while the objects and their descriptions provide multi-layered stories about Dutch empire, Dutch science, and Dutch nationhood. Animal-objects like the extinct quagga and cape lion, and the now-threatened orangutan, produce mixed emotions: as the visitors confront the gaze of each animal, they are left to ponder irreparable species-loss as well as the more uplifting notions of scientific ingenuity, national pride, and the reform of collectors' ethical engagements. Nevertheless, the exhibit's dominant message is a positive one. Though Naturalis appears willing to confront some of the more painful aspects of its own 'indelible colonial history', particularly in the printed catalogue, the design of the exhibit aims to accentuate visitors' sense of wonder, progress, and pride.

In many ways, this combination perfectly mirrors the driving forces behind Dutch natural history collecting over the last two centuries. At its founding in 1820, the *Rijksmuseum van Natuurlijke Historie* was intended to give the Netherlands – as a small, newly independent nation surrounded by larger powers – a basis from which to compete in transnational scientific networks. And in the decades that followed, the museum did so admirably, as did Artis, the zoological collection with which it later merged. Indeed, during the nineteenth century and into the twentieth, scientific expertise figured alongside the works of Rembrandt and other

seventeenth-century artists as a core element of Dutch cultural nationalism (Van Berkel 1991; Mehos 2006). Viewed from this perspective, the *Nature's Treasure Trove* exhibition, with its celebration of Naturalis's world-renowned collection and its exceptional team of scientific experts, carries on a longstanding national tradition.

But if the civic address of the nineteenth- and early twentieth-century museum concerned itself primarily with scientific elites – during this period, the collection was not regularly open to the public – today Naturalis addresses, and finds itself addressed by, a much wider range of visitors. In the first decades of the twenty-first century, Dutch museum professionals have reckoned with demands for exhibition practices that better serve diverse audiences. Much of this discussion has focused on the Rijksmuseum and Mauritshuis and their collections' relationships to colonialism and slavery.¹³ But with the open letter of Extinction Rebellion, we see that biodiversity and climate change have been added to the agenda, and that some visitors are demanding more from natural history museums. In his response to the activist group, Edwin van Huis summoned the wisdom of David Attenborough in order to defend exhibitions that emphasize the emotions of love and wonder over those of dread or fear. There is a powerful logic to this strategy, and Naturalis has a strong record of appealing to children, in particular, with its many interactive exhibits and extensive educational programming. But as public awareness of the biodiversity and climate crises deepens – thanks in large part to youth-driven activism – one wonders how the museum will continue to revisit its display practices. David Attenborough may have spurred an older generation to delight in the natural world, but many young people are more likely to take inspiration from another, much younger icon. Greta Thunberg and her fellow school-strikers have made it clear that they have little use for wonder or hope. Instead, they want us to feel *panic* – and many museum-goers, young and old, already do.¹⁴ As we turn from the world of the *Wunderkammern* toward an uncertain future, it will be interesting to see how Naturalis and other museums engage with this emotion in the years to come.

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Notes

- ¹ Naturalis, 'Naturalis Marks its 200th Anniversary'. <https://www.naturalis.nl/en/200-years-naturalis>, accessed 12 March 2021.
- ² With the exceptions of the museum website and exhibit captions, which were provided in both Dutch and English, all translations from the Dutch are by the authors. In cases where Naturalis provided dual-language material (as on its website and in exhibit captions), we have quoted from the English-language texts.
- ³ Jelle De Graaf and Linda Knoester, 'Opinie: Naturalis is geen museum, maar een mortuarium', *Leidsch Dagblad*, 9 January 2021. https://www.leidschdagblad.nl/cnt/dmf20210109_20182321, accessed 12 March 2021.
- ⁴ This article focuses on the relationship between Dutch national identity, cultural memory, and the emotions provoked by representations of extinction and endangerment. For a broader transnational context and extended meditation on these themes, see Heise 2016, Jørgenson 2019 and the essays collected in Rose, van Doornen, and Chrulew 2017.
- ⁵ The entire museum, including the special exhibition, have been made accessible as a virtual museum on Naturalis's website. The visitor can digitally walk through the spaces, read the captions and wall texts, and study the objects: <https://www.naturalis.nl/virtueelmuseum>, accessed 12 March 2021.

- ⁶ This is consistent with the historical treatment of certain other objects on display in the permanent collection, such as the 'Java Man', the fossilized remains of a *Homo erectus* specimen excavated by Eugène Dubois in Dutch colonial Indonesia in 1891 and 1892 (Drieënhuizen and Sysling 2021).
- ⁷ <https://quaggaproject.org>, accessed 12 March 2021.
- ⁸ <https://topstukken.naturalis.nl/object/kaapse-leeuw>, accessed 12 March 2021.
- ⁹ The 'Aftermovie' of the Gala for Biodiversity can be viewed at <https://www.youtube.com/watch?v=Fb0Pmdbldgc&t=9s>, accessed 12 March 2021.
- ¹⁰ The Dutch caption describes him as 'sitting' in the collection: 'Deze orang-oetan zit al ruim honderd jaar in de collectie van Naturalis'. Although the Dutch verb 'to sit' can be used in a generic way to indicate 'being present in', in light of the pose of this ape, it makes him seem even more alive. Furthermore, the second sentence, which in English refers to the object as 'it', uses the pronoun 'he' in Dutch.
- ¹¹ <https://www.worldwildlife.org/species/orangutan>, accessed 12 March 2021.
- ¹² This could easily be read as a reference to another item in the museum's collection, the baby orangutan Aram. In 1894 his mother was shot out of a tree, while still holding him; despite attempts to keep the infant alive during the expedition, he soon died and was taken back to Leiden with his mother, to be added to the collection. The baby orangutan was the focus of a documentary made in collaboration with the museum, which aired on Dutch television in 2019 and has become a famous object in the museums' collection.
- ¹³ Hannah McGivern, 'Decolonising Museums: The New Network Opening Up the Diversity Debate in The Netherlands', *The Art Newspaper*, 6 July 2020. <https://www.theartnewspaper.com/2020/07/06/decolonising-museums-the-new-network-opening-up-the-diversity-debate-in-the-netherlands>, accessed 12 March 2021.
- ¹⁴ Greta Thunberg, 'Our House is on Fire', *The Guardian*, 25 January 2019. <https://www.theguardian.com/environment/2019/jan/25/our-house-is-on-fire-greta-thunberg16-urges-leaders-to-act-on-climate>, accessed 12 March 2021.

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