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The birth of the first Sumatran Rhinoceros *Dicerorhinus sumatrensis* (Fischer, 1814) – London Docks 1872

Die Geburt des ersten Sumatra-Nashorns *Dicerorhinus sumatrensis* (Fischer, 1814) – London Docks 1872

Kees Rookmaaker

Chief Editor, Rhino Resource Center, c/o National University of Singapore, Department of Biological Sciences, 14 Science Drive 4, Singapore 117543

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Abstract

A Sumatran Rhinoceros (*Dicerorhinus sumatrensis*) was born in the Victoria Docks of London on board the steamer *Orchis* arriving from Singapore. It was the first of only eight captive births of this species ever recorded. The female had been captured in Malacca (current Malaysia) together with a male which did not survive the journey. She delivered a female baby unaided by the keeper August Engelke on the evening of Friday 6 December 1872. The rhinos were owned by the animal dealers Carl Hagenbeck and William Jamrach. In London mother and baby were kept in the stables of Charles William Rice on Commercial Road, attended by John Warncken. They were examined by Abraham Dee Bartlett and Frank Buckland, and sketched by Charles Berjeau and an anonymous illustrator working for the *Graphic*. The baby was crushed to death by her mother on Wednesday 18 December 1872. "Never mind, better luck next time" was the optimistic summary of the Victorian commentators. The female was subsequently sent to America, most probably to be added to one of the menageries operated by P.T. Barnum.

Keywords: Reproduction; Jamrach animal dealer; Hagenbeck animal dealer; P.T. Barnum circus owner; A. Forepaugh circus owner

E-mail address: rhinorrc@gmail.com

Introduction

In the early evening of Friday 6 December 1872, the first Sumatran Rhinoceros (*Dicerorhinus sumatrensis*) was born in captivity, on board of a steamer which had just arrived in the Victoria Docks on the Thames in London. Officials from London Zoo came early the following morning to examine the newborn and to offer valuable advice to the owners, while journalists and illustrators were eager for news to convey to the general public. Despite all this attention and good care, the baby died twelve days later, on Wednesday 18 December 1872, because the mother inadvertently came to lie on her. The main events surrounding the birth and the animal's short life were narrated to the Fellows of the Zoological Society of London in their weekly meeting in Hanover Square of 7 January 1873 by their superintendent Abraham Dee Bartlett (1812-1897) and subsequently published in their Proceedings (Bartlett, 1873a). However, as much time has elapsed and memories of people involved have faded, it is important to have a second look at this remarkable event.

The first birth of a rhinoceros in captivity occurred in May 1824 in Kathmandu, Nepal to a pair of the Indian species *Rhinoceros unicornis* (Rookmaaker, 1979). The birth in 1872 was only the second of a rhinoceros *ex situ*. Captive births of the Sumatran Rhinoceros are very rare (Table 1). In fact, there are records of only eight instances, of which at least two were born to a wild-bred female (Rookmaaker, 1998; Christman, 2010 with updates by F. Oberwemmer, in litt. 2014). Three births occurred in the 19th century, and 4 more recently. Two animals are alive at the current time.

The story of the birth of the rhinoceros in the London Docks can be pieced together from several contemporary sources incorporating eye-witness accounts and interviews with the keepers or owners. Bartlett presented his findings to the Zoological Society, which when published included a drawing of the feet and a coloured plate (Bartlett, 1873a). Francis Trevelyan (Frank) Buckland (1826-1880), a passionate naturalist, at the time followed all latest events to include in his books and papers published in a variety of popular magazines and newspapers, and as such wrote about this "Cockney Rhinoceros" in a letter to the *Times* (Buckland, 1872a). An unnamed correspondent of *The Field* gave a personal account (Anon., 1873b), one of the animal's attendants provided a summary many years afterwards

Table 1. All births in captivity of the Sumatran Rhinoceros (*Dicerorhinus sumatrensis*).

Place of birth	Date (sex) "house-name"	History
London Harbour	1872 Dec 6 (♀)	died 1872 Dec 18 (?)
Calcutta Harbour	1885 Feb (♀)	died 1885 (?)
Calcutta Zoo	1889 Jan 30 (♂)	died after 1913
Melaka Zoo	1987 May 23 (♀)	to Sungei Dusun 1997 Dec 1 died 2003 Nov 16
Cincinnati	2001 Sep 13 (♂) "Andalas"	to Los Angeles 2003 Jun 20 to Way Kambas (Sumatra) 2007 Feb 20
Cincinnati	2004 Jul 30 (♀) "Suci"	died 2014 Mar 31
Cincinnati	2007 Apr 29 (♂) "Harapan"	to Yulee White Oaks 2008 Nov 11 to Los Angeles 2011 Nov 14 to Cincinnati 2013 Jul 3
Way Kambas	2012 Jun 23 (♂) "Andatu"	

(Warncken, 1884) and finally the German animal dealer Carl Hagenbeck (1844-1913) talked to Friedrich Carl Noll (1832-1893), editor of *Der Zoologische Garten* (Hagenbeck, 1873; Noll, 1873). The historiography of the rhino's birth should benefit from such an abundance of sources, but at close scrutiny they reveal many discrepancies in the details.

Capture in Malaysia and transport to London

In the 1870s, the trade in live animals from Asia to Europe and North America saw a rapid increase. Two rhinoceroses were shipped from Singapore on board the steamship *Orchis* on Saturday 21 September 1872 (*Straits Times*, 28 September 1872). The animals had been caught in pitfalls in "Malacca" (the term may have been applied quite loosely) in what is now peninsular Malaysia. The exact locality of these capture operations was never disclosed and apparently was of little concern to the traders or purchasers. It was a wasteful method, as the same newspaper report admitted that out of six or seven animals captured, only one would make it alive to its destination. The captors alluded that they had seen the two animals mate shortly before their capture. This allowed scientists in London to calculate the gestation period of the species, previously uncertain, to be close to nine months, which would indicate that the animals had been captured in March 1872. We now know that this figure must be incorrect as accurate data obtained for the four recent births in Cincinnati Zoo and Way Kambas provided gestations of 475 (Andalas), 477 (Suci), 479 (Harapan) and 473 (Andatu) days (Roth, Bateman, Kroll, Steinmetz, & Reinhart 2004, Carson & Uhlman, 2007, Ellis, 2012, T. Roth, in litt. 2014). This range of 473-479 days is very similar to the gestation period recorded in other species of rhinoceros (Rookmaaker, 1998).

The two rhinos were bought by an agent of the European dealers. These agents operated at the time from most of the major trading ports in the region like Singapore and Kolkata. No information has been retrieved about the transport of the rhinos from Malacca to Singapore, or about their stay on the latter island. However, a similar animal shipment departing on 12 March 1873 was put together by Harry Keats, who was said to be an "agent for Mr. Jamrach, the London Menagerie proprietor" (*Straits Times Overland Journal*, 13 March 1873). Keats had been in Singapore for five months and exhibited the animals before departure "at the yard attached to the Hotel de la Paix" on Coleman Street (*Straits Times Overland Journal*, 30 January 1873). The newspaper reporter at the time saw "four large male and female Tapirs from Malacca, two Cassowaries from Macassar, three Victoria-crowned pigeons from Celebes, two Orang-utangs, two black Parrots, a black Panther, a young female Elephant (purchased from H. H. the Maharajah of Johore), a Bear from Borneo and a pair of Borneo fire-back pheasants." But more was expected: "We hear that these animals, with a Rhinoceros or two expected next week, will be shipped for England by the next steamer of the Ocean Steamship Company; and in addition to them, Mr. Jamrach's Agent has entered into a contract with two local Nimrods, (Messrs Fernandez Brothers) to hunt and buy up within the next six months eight live specimens of each of the following animals, viz: Rhinoceri, Tapirs, Tigers, and black Panthers and sixteen male and female argus pheasants. The hunters for the Rhinoceri have a number of pits dug for entrapping these animals, into which, if they fall, that ardent naturalist, Mr Frank Buckland, will probably ere long have the pleasure of

chronicling the birth of another 'cockney Rhinoceros"' (*Straits Times Overland Journal*, 30 January 1873). It may be remembered that Alfred Russel Wallace (1823-1913) for a short time was assisted by a Portuguese man named Manuel Fernandez from Malacca (van Wyhe & Rookmaaker, 2013), who was almost certainly related to the hunters who amassed specimens for the western markets.

It must have been the predecessor of Keats in Singapore who handled the two Malayan rhinos shipped to London in September 1872. This shipment was accompanied during the journey via Penang and through the Suez Canal by an attendant who was variously identified in the British press as Engelcke (Anon., 1873a) or Auguste Engelecke (Bartlett, 1873a). This was August Engelke, who was employed by Jamrach on several occasions to look after animals during the voyage to Europe (Jamrach, 1872). It would have been normal practice to keep the animals in cages and crates on the deck of the steamer. Nearing the end of the voyage of the *Orchis*, in the Bay of Biscay, a heavy storm occasioned such high waves that the teak cage of the male rhinoceros was damaged to the extent that the animal succumbed to the ordeal (Hagenbeck, 1873). He was thrown overboard and nothing else is known about this animal.

The arrival of the *Orchis* in England was recorded for Gravesend on 5-6 December 1872 (*Times*, 7 December 1872), and from there it would have taken few hours to reach the docks further up the Thames. Buckland (1872a) stated that the journey took 73 days, which (calculating from 21 September 1872) gives arrival in London on Monday 3 December 1872. Hagenbeck (1873) recorded 5 December, which is likely to be more accurate in view of the shipping intelligence in the *Times*. The large steamer berthed in the Victoria Docks in London's East End. It would take a few days for the cargo to be offloaded.

According to Hagenbeck (1873), the female rhinoceros was owned by a partnership of two firms of animal dealers led by Carl Hagenbeck and William Jamrach. Hagenbeck, based in Hamburg, had good connections with the zoological gardens of the European continent. Jamrach's firm trading in exotic wildlife had been set up in 1840 in London by Johann Christian Carl (Charles) Jamrach (1815-1891), who had emigrated there from Germany (Brandon-Jones, 1997; Simons, 2014). In later years he was assisted by his son William Jamrach (1842-1923), who is known to have been active in procuring animals for the business especially in South and South-East Asia (Rookmaaker, 1983; Assael, 2004; H. Reichenbach, in litt. 2014). Hagenbeck and Jamrach often cooperated in similar shipments from abroad sharing the financial losses and profits. This is clear from account books still kept in the Hagenbeck Archive (in Hamburg). On a page headed "William Jamrach" there is an entry in June 1873 stating that Hagenbeck paid Jamrach "½ Profit of Sumat. Rhinoceros £159 15s 9d" (meaning that eventually the rhino brought a profit of just under £320) and a few lines below that a small expenditure for "Engelke" in Singapore. On 8 September 1873, the sale of two Rhinoceros Indicus brought £750, confirming the regular price of a rhinoceros in those days. Unfortunately the account book does not provide the names of the buyers.

Probably based on hearsay, the correspondent of the *Graphic* (Anon., 1873a) attributed ownership to Charles Rice only, while Buckland (1872a) mentioned a consortium of Rice, Hagenbeck and A.H. Jamrach. The latter was Anton Herman Jamrach (1841-1885), the son of Charles's brother Anton Jamrach (1811–1841). After the death of Anton Jamrach, Charles married his widow Mary Athanasio, so Anton Herman then became his stepson (Reichenbach, in litt. 2014). It is unlikely, however, that Anton Herman Jamrach would

Fig. 1. The baby rhinoceros sketched soon after birth by Charles Berjeau (Proceedings of the Zoological Society of London 1873).

have independently owned a share in the rhinoceros, maybe he was present at the scene when Buckland was visiting. All sources agree, however, that Charles Rice provided space to keep the rhinoceros. Rice was Hagenbeck's brother-in-law after his marriage in 1869 to Marie Dorothea Luise Hagenbeck (1848-1886). A photograph, probably taken in the early 1870s, showing Charles Rice, Carl Hagenbeck, Clarence Bartlett (1848-1903, deputy superintendent of London Zoo at the time) and William Jamrach was recently found in the Hagenbeck Archives (Fig. 2).

Charles William Rice (1841-1879) was born steps away from Jamrach's place of business in the parish of St. George's in the East, and in the 1870s lived in a terraced house at 130 Commercial Road, London. In 1877, Rice placed an advertisement in the *Era Almanack, Dramatic & Musical*, where he styled himself as a "naturalist, the largest importer of animals in Europe, dealer in all kinds of beasts, birds, and reptiles" and with "agents in most parts of the Globe, is enabled to procure all kinds of animals on the shortest notice" (Rice, 1877). His ambitions to send agents to the end of the globe were echoed in the fictional journey through India written by Jules Verne (1828-1905) in 1880, when the party was introduced to "the naturalist Mathias van Guitt, purveyor of pachydermata, tardigrades, plantigrades, probiscidate animals, carnivora, and other mammalia for the house of Mr. Charles Rice of London, and Messrs. Hagenbeck of Hamburg" (Verne, 1881). Although there is no direct evidence that Rice was in a position to be a financial partner for expensive animal imports as stated by Dittrich and Rieke-Müller (1998), he certainly worked together with Carl Hagenbeck on many occasions. It is likely that Hagenbeck was staying with him when the Sumatran rhino gave birth in the London Docks. Rice came to Berlin in September 1879 to direct one of the early anthropological-zoological shows organised as Hagenbecks

Fig. 2. Photograph showing some of the people involved in the rhinoceros birth in London, from left to right: Charles Rice, Carl Hagenbeck, Clarence Bartlett and William Jamrach. Although undated, the picture was probably taken in the 1870s in London (Archiv Carl Hagenbeck, Hamburg).

'Nubische Karawane' (Klös, 2000). Rice remained in Berlin after the show left and died there in November 1879 from the effects of a bite of a tiger (Dittrich & Rieke-Müller, 1998).

Birth of the rhinoceros

Soon after the *Orchis* reached the Victoria Docks on 5 or 6 December 1872, the keeper August Engelke discovered that the rhinoceros had given birth. Based on his information, Bartlett (1873a) was the only one to provide particulars of this event. At 7 pm the keeper heard a squeaking voice and found that the female rhinoceros had just delivered. He saw the mother turn her head towards the baby and bite the connecting umbilical cord. The mother had been savage before but was now perfectly tame, so that he could enter the crate. He milked the mother and then placed the baby in a position where it could start sucking. He then left hoping that peace and quiet would help the exhausted mother.

According to Bartlett (1873a), the *Orchis* arrived at the Victoria Docks on Saturday 7 December 1872 and the rhinoceros gave birth "about 7 o'clock in the evening of that day." The summary of his talk in *Nature* (Bartlett, 1873b) and in the *Athenaeum* (Bartlett, 1873c) unequivocally indicates that the birth took place on 7 December. That is the version which has been followed in the literature and which I accepted earlier (Rookmaaker, 1998). However, Buckland (1872a), the correspondent of the *Graphic* (Anon., 1872a) and Warncken (1884) all explicitly state that the birth took place "on Friday evening last." As this agrees with the shipping records, I suggest that the first Sumatran Rhinoceros in captivity was in fact born in the evening of Friday 6 December 1872.

Buckland (1872a) named the young animal in his report to the *Times* the "Cockney Rhinoceros". Cockney of course was a term given to people living in the East End of London, also sometimes extended to their probably less than proper pronunciation of the language. Buckland probably used the term proudly and humorously to refer to the unusual place of birth of this baby rhinoceros.

It is remarkable that none of the contemporary correspondents mentioned the gender of the baby, always referring to the animal as "it". Only when Buckland (1872a) writes that "it has a ridiculous-looking innocent, hairless face" this is changed in a quote given in *The Graphic* (Anon. 1872a) to read "he has [etc.]" On the other hand, the absence of a reference to external genitalia in the descriptions of the baby's appearance could well indicate that the young one was in fact a female. Until conclusive evidence is found, I will assume that the latter deduction is correct and the animal was female.

At birth the baby measured 3 feet (90 cm) in length, 2 feet (60 cm) in height and the weight was estimated just over 50 lbs (23 kg). The front horn was about an inch (2.5 cm) high, while the rear horn was indicated by a smooth spot. The body was entirely covered with black hairs, and both inside and outside the ears were very hairy (Buckland, 1872a; Bartlett, 1873a). The general appearance of the young animal showing the dark colour of the hairs and skin was sketched soon after birth by Charles Berjeau, whose work often appeared in the *Proceedings of the Zoological Society of London* from 1867 to 1898 (Root & Johnson, 1986). This image was published as Plate XI to accompany Bartlett's (1873a) paper, entitled: "Rhinoceros Sumatrensis. vit. [alive]", with imprints in lower left corner "C. Berjeau lith."

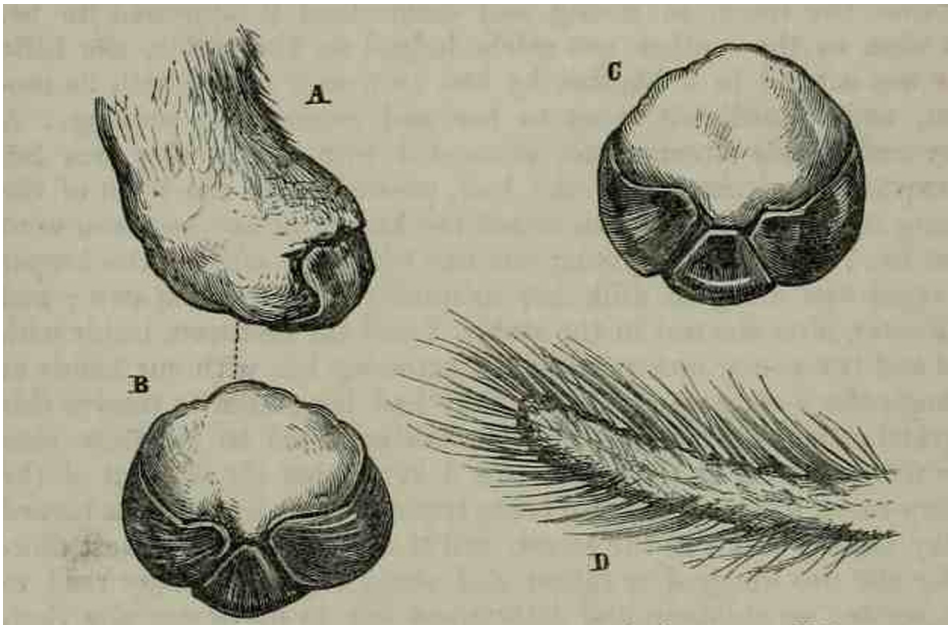

Fig. 3. The feet of the baby rhinoceros, and the tail of an adult male rhinoceros. Unsigned drawing accompanying Bartlett's account of the London birth (Proceedings of the Zoological Society of London 1873).

and the artist's initials "C.B." by the hind legs; in lower right corner "M. & N. Hanhart, imp." (Fig. 1). The printers are identified as Michael Hanhart (1810-1884) and Nicholas Hanhart (1815-1902), owners of a firm specialising in chromolithography established at Charlotte Street, Fitzroy Square, which in the period 1860-1890 was responsible for plates in many natural history books as well as in the *Proceedings* and *Ibis* (Jackson, 1999).

Bartlett (1873a) specifically remarked on the hooves, which he found turned under the feet, with the extreme points of the hoofs being quite soft. The hooves were shown in a figure portraying the right fore foot and right hind foot (Fig. 3). The artist is not mentioned but could have been Berjeau because he must have been to visit the young rhinoceros. This figure also included a view of the "tail of the adult male", possibly indicating that not all parts of the animal which died in the Bay of Biscay were actually thrown overboard.

Rice's stables in London

The rhino's keeper Engelke had left mother and baby on the steamer after he made sure that the baby was comfortably settled near the mother. How long Engelke was away is uncertain. One might expect that he went to inform Charles Rice about the birth, and returned late in the evening. He then found that the baby rhinoceros had left the den and was wandering around on the deck in the cold and rain. The legs of the little animal were

stiffened by the cold, so Engelke rubbed them warm again and then wrapped the animal in blankets.

There are, oddly enough, two different versions of what happened next. Hagenbeck (1873) said that the baby was taken to Rice's house that same evening to await the arrival of the mother the next morning, while Bartlett (1873a) stated that mother and baby travelled together to the house on the day after the birth. Both men were supposedly recounting their personal recollections, so the cause of the discrepancy may never be known. According to Hagenbeck, after the baby was found wandering alone on deck, she was rushed straight to Rice's quarters where his wife sat with her in front of the fire and ensured that she was comfortable. As no mother's milk was available, they fed her some cow's milk (Bartlett later advised against this). The small rhino regained her health and ran around the house, and could be reunited with her mother as soon as the large animal arrived from the ship the next morning.

Bartlett (1873a) expressly stated that he found mother and young the following morning "on board the ship and about to be landed." It was his advice to take the animals on shore. The mother's den was safely put on a carriage, and on seeing the animal's agitation, it was decided that Engelke and the baby would ride with her during the transport to Rice's stables. While the men were busy manoeuvring the den into position at their destination, the baby was taken inside the house "taking it in blankets into the parlour, where there was a good fire. Here we had quite enough to do to keep it from running all over the room, so strong and determined it appeared to be." When the mother was settled in the stable, the baby was again wrapped in a blanket and carried by two men. Immediately after being re-united the baby started sucking. It is interesting to imagine the group of men consisting at least of Charles Rice, Carl Hagenbeck, Abraham Bartlett and Frank Buckland looking on at this scene. Engelke had milked the mother after birth and Buckland had a taste of this novel drink: "I have tasted the milk of the rhinoceros. It is excellent. I suppose I am about the only man, who has tasted rhinoceros milk and eaten a steak of a young hippopotamus in London. We must look out for new articles of diet in these hard times" (Buckland, 1872a).

Charles Rice's stated address at 130, Commercial Road is one in a line of terraced houses called King's Place, near the corner of Grove Street. This is on the western side of Commercial Road, about 200 m from Whitechapel Road. The distance from the Victoria Docks would be about 3 km (Ainsworth, 2014). It is not quite clear where he had the stables to house the various animals which were part of his trade, but they were likely behind the house or otherwise in the immediate vicinity.

After August Engelke helped to deliver mother and baby rhinoceros to Rice, the animals were looked after by different attendants. Buckland (1872a) referred to "Jack" who "sleeps in the box with the young rhinoceros, and takes care that it is warm and comfortable" – unidentified in the absence of a surname. Anon. (1873b) acknowledged "the obliging keeper Mr. John Warncken", who must be the same person submitting a short letter to the editor of *The Era* in 1884 about his experience, signing as "J. Warncken, 60 Jamaica Street." This was John Albert Warncken (1853-1925), one of the sons of Christian Warncken (1814-1866), whose older brother Christian Diederich (1847-1905) was employed as "naturalist" by Charles Rice for 18 years (Old Bailey, 1880; Ancestry, 2014). John was still a young man at the time, but his presence in Jamaica Street, not far from Commercial Road, was recorded in the UK Census of 1881.

Fig. 4. The scene in the stables of Charles Rice in London, where the baby rhinoceros was provided with a box separate from her mother. Anonymous engraving (30 x 22 cm) published in The Graphic of 11 January 1873.

While the baby rhinoceros was in Rice's stables, she was sketched at least twice. First, as mentioned above, by Charles Berjeau under commission of Bartlett or the Zoological Society of London (Figs. 1, 3). Another engraved plate, quite forgotten in the recent literature, appeared in *The Graphic: an illustrated weekly newspaper*, first published by William Luson Thomas (1830-1900) in London on 4 December 1869 in direct competition with the *Illustrated London News*. The lithographed plate in the 11 January 1873 issue (Fig. 4) entitled "The Late Baby Rhinoceros and His Mother / A sketch from life" is not signed and I have been unable to find an attribution to the artist anywhere in the volume in which it appeared. The scene presented in the plate is actually quite well described by the anonymous correspondent of *The Field*:

"Descending some steps into a dark stable, we could see by the dim light of a bull's-eye lantern that the further end had been partitioned off, and covered with sacking to exclude the light. In this compartment the old rhinoceros was lying down, while the young one, pretty strong on its legs, was walking slowly towards us, and making for a square opening that led into a separate chamber in which a feather-bed had been placed for its especial benefit. The opening through which it entered is too small to admit the mother, although the keeper, who shares its feather-bed, informed us that the dam comes to the opening and looks in

affectionately at her infant while it sleeps. She is very quiet, and seems little to think that with one toss of her strong and sharp horn she could send cradle and keeper through the roof of the stable. As we peeped in at a small aperture, the keeper holding the light down for us, the young one walked up deliberately to the lantern, and gave us an excellent view" (Anon., 1873b).

Although the editors of the *Graphic* inserted an explanation of the plate (Anon., 1873a), they did not identify any of the people seen besides the rhinos. Both Bartlett and Buckland in that period sported prominent beards as seen in other contemporary illustrations (Blunt, 1976), and are therefore not included. The man sitting in the back holding the light probably was not August Engelke, nor apparently Rice's attendant John Warncken (as he would have been younger than the man depicted), but might have been the unidentified keeper Jack. The person sketching in the foreground should be the actual draughtsman trying his hand at a self-portrait, perhaps to convey the courage and versatility of the artist-journalists capturing the news in the English capital on a daily basis.

Death of the baby

Having survived her ordeal wandering in the cold English weather immediately after birth, the young rhinoceros did not survive long. Charles Rice did what he could to nourish the animal and keep her with the mother, but of course his stables were only meant as temporary accommodation for the animals in his shipments, and he was probably ill-equipped for this unusual situation. One morning doing their early rounds, Rice and his keeper found the baby lying dead next to the mother. She inadvertently had gone to sleep on top of the young one and crushed her to death.

Buckland (1872b) was again the first to reveal the news to the world, in the issue of *Land and Water* dated Saturday 28 December 1872: "Somehow or other, the clumsy old parent rhinoceros managed to lie upon the young one and killed it. This is very much to be regretted for many reasons, though of course the comparative anatomists will not be sorry for having such a chance of a rare dissection. I understand the price of the two rhinoceros together was thirteen hundred pounds." Buckland's less than sensitive reference to the "clumsy old" mother was even more callously reflected in a notice in the *Belfast Newsletter*: "Speaking of parental responsibility, the baby rhinoceros is dead; the stupid old mother having overlain and smothered her interesting offspring" (Anon., 1872b).

Buckland did not say when the baby died. When Bartlett (1873a) talked about the birth in the meeting of the Zoological Society, he referred to the baby's death in the last sentence only: "I have to express my regret at the death of this young animal, as by this misfortune we have lost the opportunity of noting the progress of growth, milk-dentition, and other facts connected with the history of the family. I learn also that the mother and the dead young one have been sent across the Atlantic." Again no date. A digest of this meeting appeared in *Nature* on 30 January 1873, and here Bartlett (1873b) is reported to have said that "the young suckled freely and lived for about a fortnight, and was said to have been accidentally killed." Warncken (1884) stated that the animal died after 12 days, while Hagenbeck (1873)

mentioned the 10th morning after birth: "Leider aber fand man am 10. Morgens um 6. Uhr das Junge todt im Stalle liegen."

The young rhinoceros therefore died on Monday 16 December 1872 if we follow Hagenbeck (1873), or on Wednesday 18 December 1872 following Warncken (1884), or on Saturday 21 December 1872 if we calculate a fortnight after the erroneous date of birth of 7 December used by Bartlett (1873b). The latter date was accepted by Reynolds (1961) and Rookmaaker (1998). I have searched for additional clues to solve the discrepancy. The only thing that could be said, that if the earliest date were correct, it is strange that Buckland did not insert a small notice in the next issue of *Land and Water*, which was available on 21 December. On the other hand, *Nature*'s second-hand and late reference to a life lasting "about a fortnight" does not have the ring of precision that would have instilled confidence. Maybe Warncken's later recollections is a good compromise, hence I take 18 December 1872 as the date of death.

The Victorians in Europe were immersed in such a flood of new creatures arriving from all parts of the globe and through improving husbandry standards witnessed so many unique events in the animal kingdom, that they were optimistic in the face of any adversity. With only seven further Sumatran rhinos born in captivity in the 142 years after 1872, we would probably not now echo the sentiment of Frank Buckland (1873) writing in the *The Leisure Hour*, apparently not too much grieved by the death of the cockney rhinoceros in London: "Never mind, better luck next time."

Shipment across the Atlantic

Both Buckland (1872a) and Bartlett (1873a) clearly state, that the rhinos on the *Orchis* were destined to continue their journey to the United States. After the death of the male and the birth of the young female, mother and baby had the same destination. Bartlett remarked on the fact that the mother was reluctant to enter "into the den in which she was shipped to America." But shipped she was, possibly together with the carcass of the baby, most likely bought by one of the successful owners of a traveling menagerie or circus. The records left about these popular institutions, largely derived from advertisements in newspapers and various ephemera, leave large gaps, and rarely gave clues allowing to differentiate one rhinoceros from another, even to identify the species on exhibit. After an in-depth investigation of the records, Reynolds (1968, 1970) showed that there were at least twelve Indian, two Sumatran and three Black Rhinoceroses in the USA in the 1870s.

None of the American circus owners in the 1870s advertised presenting a rhinoceros which had given birth in captivity, or a mounted hide of a baby. The majority of the 17 rhinos known in American circuses in that period can be discounted as they are known to have arrived prior or subsequent to the arrival of the London rhinoceros. It is of course possible, as suggested on a hunch by Keeling (2006) that she died during the voyage from metritis, eclampsia or septicaemia. This does not explain why apparently Hagenbeck was paid the full amount shown in his accounts book, as surely that would have depended on safe delivery. So if the rhinoceros was shipped in the last week of 1872 or the first week of 1873, given a trans-atlantic journey of 7-14 days, her arrival would have been expected in January or early February 1873. Four animals fit this limited time-frame.

The circus owner Adam John Forepaugh (1831-1890) showed a Sumatran Rhinoceros from February 1873 to October 1875. Reynolds (1970) suggested that this might have been the London female. The *Daily Phoenix* of Columbia, South Carolina dated 5 March 1873 (probably copying a New York newspaper) has an account of a shipment of animals destined for Forepaugh which arrived in New York on the City of Sparta (Captain Anderson) on 27 February 1873. Talking about havoc caused by an elephant after breaking loose in the harbour, in passing the newspaper mentioned a "Sumatran black rhinoceros." The City of Sparta's date is maybe on the late side for the London rhinoceros, but more pertinently the ship was said to have come directly from Calcutta (where it left on 30 November 1872) via the Cape of Good Hope – certainly an unusual route for animal imports in those days when the trade was dominated by European dealers like Jamrach and Hagenbeck. The rhinoceros survived a fire which destroyed Forepaugh's winter quarters in Philadelphia on 20 December 1873 and died on the road in upstate New York in October 1875 (Conover, 1959; Reynolds, 1970; Thayer, 2013).

The circus magnate Phineas Taylor Barnum (1810-1890) knew that a rhinoceros was good for business as its size and rarity together could not fail to attract a large audience. Even before a fire destroyed his premises on 14th Street in Manhattan, New York on 24 December 1872, he was ordering animals to stage the greatest show on earth the next year. In fact, Barnum already owned two rhinoceroses at the time. One was a male Indian Rhinoceros shown from February 1871 to 1874. The other (most likely a Sumatran) he leased to Pardon Austin Older (1826-1908) for a circus tour of the South in November and December 1872 (Reynolds, 1970). The show used Barnum's name but collapsed in Louisiana in December. Helped by Barnum, Older reorganized it as the Trans-Atlantic Circus and Menagerie (Slout, 2005). This venture also collapsed, meeting its end in Shreveport, LA in August 1873. It was sold piecemeal. The rhinoceros was purchased by James Cumpston who advertised it as a "Black Sumatran Rhinoceros" incorporating it with a new circus organized for the 1874 season by Frank Stevens and R. L. Begun (S. Thayer, in litt. 2000), the first named being a former older associate (Slout, 1998). Stevens and Begun, with the rhino, were to tour through Iowa, Missouri, Arkansas, and Texas (*New York Clipper*, 4 April 1874). Here the trail ends for arguably America's first Sumatran rhino.

Short notices in newspapers indicate that Barnum might have imported no less than three new rhinos in the first quarter of 1873:

1. On 15 January 1873, the steamer *Hansa* arrived in New York from Bremen (28 December) via Southampton (31 December) carrying a "double horned black rhino" from Abyssinia (*New York Clipper*, 25 January 1873; *New York Times*, 16 and 20 January 1873). If the stated origin was correct, the animal was a Black Rhinoceros (*Diceros bicornis*), but given the generally loose usage of all terms, it could also have been a Sumatran Rhinoceros. The fate of this animal is unknown.
2. On 2 February 1873, the steamer *George Washington* (origin not verified) brought a consignment of rare animals for Barnum, including a "double-horned Sumatran rhinoceros", a white polar bear, a sea lion and a South African elephant (*New York Times*, 4 February 1873). No further data on this specimen.
3. In March 1873, Barnum was said to keep at the Commodore Vanderbilt's stables, corner of Thirtieth Street and Ninth-avenue, New York a large number of animals including

"an Indian rhinoceros, just imported at a cost of $14,500, which being the only one in the country, is a great curiosity" (*New York Times*, 22 March 1873). This animal, almost certainly a *Rhinoceros unicornis*, died on 29 September 1873 in Philadelphia (Rookmaaker, 1998).

If all these newspaper reports turn out to be true, the amazing conclusion would be that Barnum in the early 1870s owned no less than three different species of rhinoceros at the same time, even if not all in the same location. Either of the animals received by Barnum on 15 January and 2 February 1873, could have been the rhinoceros which gave birth in the London Docks in 1872. However, so far the right piece of evidence linking her stay in London with a subsequent exhibition in an American menagerie has not yet turned up. Her fate remains unconfirmed, but this does not diminish the importance of the first birth ever recorded of a Sumatran Rhinoceros.

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