MARCO POLO'S RHINOCEROS: COGNITIVE DISSONANCE IN 'FREIGHTED' DESCRIPTIONS OF ONE-HORNED ANIMALS

Catherine Kovesi

Fritha Langerman's multi-layered, multi-tangential *FREIGHTED*, covering 500 years of rhinoceros collection and display, begins, appropriately and suggestively, with the most influential of all rhinoceros representations, that by Albrecht Dürer from 1515. Dürer's woodcut of the Indian rhinoceros known as Ganda by its Portuguese viewers (derived from the Hindi word for rhinoceros – गैडा – pronounced *gainda*) and nicknamed Ulysses by the sailors who freighted the animal and its keeper, Ocem, from Lisbon to Goa, was, as Langerman reminds us, not drawn from life. A cautionary tale as to the dangers of regifting, Ganda was originally gifted by Muzaffar Shah II, sultan of Gujarat (r. 1511–1526), to the Portuguese governor of Goa, Alfonso de Albuquerque. Alfonso decided that such an animal would make a magnificent gift to his overlord, King Manuel I of Portugal, who in turn decided to regift Ganda to the Medici Pope, Leo X. In December 1515, tethered to the deck of a boat and adorned with a velvet collar festooned with roses and carnations, Ganda perished at sea before any detailed drawings could be made.[1] Although its carcass eventually came to shore and was apparently stuffed so that its dead body could at least be sent to the Pope, there is no record of any taxidermic rhinoceros in the papal or other collections of the period.[2] So, though Europeans now knew that a creature called rhinoceros did indeed exist, the opportunity for a detailed examination of its anatomy had been lost. Dürer had to rely on a written report and a sketch by the Lisbon-based German printer Valentin Ferdinand – with well-known anatomical consequences for his famous woodcut.[3]

But if Dürer's is the most iconic of European representations of the earliest known rhinoceros to be freighted to European shores since Roman times, someone else had provided Europeans with a detailed description of a horned animal that was almost certainly a rhinoceros over 200 years earlier, in the 1290s. The nature of this animal was instead freighted to Europe in the mind's eye and retellings of one of the most famous European travellers, Marco Polo himself.[4]

As he journeyed back from the Great Khan, Polo arrived on a south-east Asian island he called *Java la menor*, or Java Minor. This was not Java itself but rather the island of modern-day Sumatra, an island, despite Polo's diminutive adjective, substantially larger than Java. Polo noted that *Java la menor* was so far south that one could no longer see the northern constellations. We can only surmise at his imaginings as he gazed upon the southern stars, but he did provide detailed information about the local fauna. Though no original manuscript survives, in the earliest and fullest extant account of his *Le devisement du monde* (*Description of the world*), narrated to and written by Polo's fellow prisoner in Genoa, Rustichello da Pisa,[5] Polo relates that in two of the eight kingdoms of this island, those of Basma and Lanbri,[6] he encountered a very particular kind of animal, described in detail in Basma:

> [In this country] they have numerous unicorns, which are barely smaller than an elephant. They have hair like that of a buffalo; feet like those of an elephant; it has a horn in the middle of its forehead, very thick and black, and I tell you that it does not cause harm with this horn but rather with its tongue, for it has on its tongue a very long thorn, so that the harm it causes is done with the

tongue; its head is made like that of a wild boar though it carries its head bent towards the ground and remains very willingly in the middle of the mire and in the middle of the mud; it is a very ugly beast to look at. They are not at all like what we say and tell here, [our stories] that say that it lets itself be captured by a virgin; but I tell you that it is completely contrary to how we say it is.[7]

… ont unicornes aseç, qe ne sunt mie guieres moin qe un leofans. Il sunt dou poil dou bufal; les piés a fait come leofant; il a un cor en mi la front mout gros et noir, et voç di qe il ne fait maus ‹con cel cor mes› con sa langue, car il a sus sa langue l'espine mout longues, si qe le maus qe il fait, ‹le fait› con ‹la› langue; il a le chief fait come sengler sauvajes et toutes foies porte sa teste encline ver terre e demore mout voluntieres entre le bue et entre le fang: elle est mout laide beste a veoir. Il ne sunt pas ensi come nos de ça dion et deviçon, qe dient q'ele se laise prendre a la poucelle; mes vos di qu'il est tout le contraire de celz qe nos qui dion qe il fust.[8]

Curiously, Polo had earlier noted seeing numerous 'unicorns' together with elephants and other *bestes sauvajes* on his descent into Mien (Myanmar)[9] but provided no anatomical detail of these animals and was not puzzled by any disjunct in their appearance, as he was with those in Sumatra. However, the specificity of the detail provided about the animals of Basma has led scholars and biologists alike to concur that Polo's 'unicorns' were in reality the Sumatran rhinoceros (*Dicerorhinus sumatrensis sumatrensis*) – a smaller, smooth-skinned and hairy version of its better-known African and Indian cousins that spends prolonged periods wallowing in mud.[10] The Sumatran rhino has two horns, not a uni-corn, but its posterior horn is usually no longer than a few centimetres, giving it a possible one-horned appearance to one viewing it from a distance. Though he was unable to examine the tongues of either the Sumatran or Javan species, Cave has established that tongues of the Indian and African white and black rhinos are distinguished by an intermolar eminence that is completely rigid – which, if also a likely feature of *D. sumatrensis sumatrensis*, would explain the 'thorn' described by Polo.[11]

No further detailed description of the Sumatran rhinoceros was provided for a European audience until William Bell's (1759–1792) description, sent back to Joseph Banks in 1792 with a male rhino skull from the former East India company Benteng (Fort) Marlborough in Bengkulu city.[12] Polo's thus remained the

Figure 1. Illumination from Marco Polo, *Livre des merveilles*, BNF, Fr2810, fol. 85r. 1410-1412. BNF Gallica https://gallica.bnf.fr/ark:/12148/btv1b52000858n/f175.item.

sole European description of this particular species for close to 500 years, though neither he nor his contemporary readership had any inkling that he was describing a rhinoceros. The Sumatran rhino prefers living in dense forest, far from human habitation, and its sightings, as Rookmaaker reminds us, "have always been rare, and even fewer have made their way into the literature."[13] Though Polo notes their ubiquity in Basma in his day, the Sumatran rhino is sadly now listed by the International Union for Conservation of Nature (IUCN) in 2020 as Critically Endangered, with fewer than 30 mature animals remaining in the wild[14] – although a precise number is always difficult to ascertain. In this sense, it is perhaps more aptly described, as Polo mistakenly did, as the elusive 'unicorn' of rhinoceroses.

This encounter by Polo, and its mismatch between fact and reality, fascinated Umberto Eco, who used it as an exemplar of linguistic usage and perceptual understandings when one is confronted with the unencountered.[15] Marco Polo had never heard of a rhinoceros. The only animal he knew of with four legs and a horn on its head was a unicorn, so this is therefore what it had to be – even if far removed from the romantic white creature symbolic of Christ himself, tameable only by a virgin such as Mary. Eco argued that in his attempt to force external reality to conform with his mental universe, Polo had fallen victim to his "background books". These, Eco argues, are our

> preconceived notions of the world, derived from our cultural tradition … we travel knowing in advance what we are on the verge of discovering, because past reading has told us what we are supposed to discover. In other words, the influence of these background books is such that, irrespective of what travellers discover and see, they will interpret and explain everything in terms of these books.[16]

If we take up Eco's idea, what "background books" informed Marco Polo's mind's eye such that he would see unicorns when plainly confronted with rhinoceroses? Bearing in mind that Marco Polo was about 15 when he left Venice with his father and uncle in c. 1269, and that there are few signs in his account of reading (although there are indications that he had read romances), wider community perceptions or understandings of the unicorn must be examined to enter into Polo's cognitive world. Four main authors and texts directed general understandings of unicorns, and by extension rhinoceroses, in his period: fragments from Ctesias (c. 400 BCE) as transmitted by Photius (b. c. 820 CE); Pliny the Elder's *Naturalis historia* (c. 77 CE); the *Physiologus* (100–330 CE); and Isidore of Seville's *Etymologiae* (636 CE).

According to the fragments we have from Ctesias in his History of India (*Indika/Indica)*, the animal known in Greek as a *monokerōs* and in Latin as a *unicornis* was quite startling in its colouring, having a white body, a dark red head, blueish eyes and a horn in its forehead about a cubit in length. The lower part of the horn, for about two palms distance from the forehead, was quite white, the middle black, the upper part, which terminated in a point, a very flaming red. Those who drank out of cups made from this horn were protected against convulsions, epilepsy and even poison.[17] Aelian (c. 175 – c. 235 CE) repeated this description, adding more details about the prophylaxis:

> They say the one who has tasted from this horn becomes ignorant and unburdened of incurable diseases. He is not seized by convulsion or what is called the sacred disease nor destroyed by poisons. Even if he had drunk something harmful earlier, he vomits this up and he becomes healthy.[18]

This alleged prophylactic property of unicorn horn was to be one of the most enduring beliefs, responsible in part for its great value and the desperation of European elites to acquire one. The problem was where to find one – and how to capture it once found.

Pliny gave descriptions of three kinds of animal with a single horn. The first was a one-horned rhinoceros (*rhinoceros unius in nare cornus*) brought to Ancient Rome as early as 55 BCE as part of a spectacle staged by Pompey,[19] an animal he described as the natural enemy of the elephant (and the dragon) and that would always be the victor in an encounter. In writing of the terrestrial animals of India, Pliny refers to the existence of oxen with solid hoofs and a single horn (*boves solidis ungulis, unicornes*) but then writes, more pertinently, of

> a very fierce animal called the *monoceros*, which has the head of the stag, the feet of the elephant, and the tail of the boar, while the rest of the body is like that of the horse; it makes a deep lowing noise, and has a single black horn, which projects from the middle of its forehead, two cubits in length. This animal, it is said, cannot be taken alive . (… *asperrimam autem feram monocerotem, reliquo corpore equo similem, capite cervo, pedibus elephanto, cauda apro, mugitu gravi, uno cornu nigro media fronte cubitorum duum eminente. hanc feram vivam negant capi*).[20]

This description is remarkably similar to that of Polo's Sumatran rhino.

Further details about how to capture the animal were developed in the *Physiologus*, an anonymous didactic Christian text compiled in Greek in Alexandria between 100 and 300 CE, and, in its Latin and vulgate translations, widely read across Europe in the Middle Ages. It was the *Physiologus* that first indicated the necessity of a chaste virgin in the successful capture of a unicorn, confronted with which: "He bounds forth into her lap and she warms and nourishes him into the palace of kings" (Chapter XVII). This detail was also noted by Isidore of Seville in his *Etymologiesi*, when he reiterated:

> It has such strength that it can be captured by no hunter's ability, but, as those who have written about the natures of animals claim, if a virgin girl is set before a unicorn, as the beast approaches, she may open her lap and it will lay its head there with all ferocity put aside, and thus lulled and disarmed it may be captured.[21]

This led to the association of the unicorn with Christ – nourished in the lap/womb of a virgin ready to be slayed, and the subsequent ubiquitous depictions of unicorns as white, symbolic of its purity, rather than Ctesias's multi-coloured animal. The depiction of the virgin as a bait for unicorns abounds in illuminated medieval manuscripts – so even if Polo did not see these or similar illuminations, they clearly depict a widespread understanding of the nature of the unicorn. It was this tradition that led to Polo's discombobulated moment of confusion when confronted instead with a dark, hairy, black-horned animal that seemed to prefer wallowing in mud to nestling up to virgins.

Figure 2. 'The Mystic Capture of the Unicorn'. Tapestry fragments. 1500.
MET, The Cloisters. CC.

If Europeans did not realise that in the *Devisement* they were reading about a new species of animal, they did at least now have a corrective as to the true nature of unicorns. Europeans read the accounts of Polo's journeyings avidly, with demand so great even in Polo's own lifetime that today we have approximately 150 extant manuscript copies translated into many languages, including Old French, Tuscan, Venetian and even Irish. A Dominican friar, Francesco Pipino, translated the text into Latin in 1302 (*Iter Marci Pauli Veneti*), enabling a still

wider spread of the text among learned scholars. Despite this detailed description, however, readers were simply unable to match Polo's description of a unicorn with their embedded cognitive frameworks. In a famous early fifteenth-century illuminated version of the *Devisement*, with the alternate title of *Livre des merveilles,* unicorns are still represented as being either a pale brown, horse-like creature[22] or in their full white purity,[23] (fig. 1) failing to engage with the specificity of Polo's account. By the sixteenth century, unicorn iconography, symbolism and characteristics were so well entrenched that representations in the famous tapestries now in the Musée de Cluny, Paris (c. 1500) and in the Cloisters Museum, New York (1495–1500) show a white, horse-like animal using its horn to purify waters from any poison and cosying up to a virgin before its final hunt and slaughter; (fig. 2) images that inform the western imaginary to the present day.

The persistence of belief in unicorns even after the existence of the rhinoceros had been established had curious consequences for nascent naturalists. In Edward Topsell's *The historie of foure-footed beastes* (1607), a translation and reworking of Conrad Gessner's five-volume *Historiae animalium* (1551–1558; 1587), an entry was created for the rhinoceros utilising, as Gessner had before him, Dürer's woodcut for illustrative purposes,[24] followed immediately by a separate entry for the unicorn. Rather than attempting to justify the inclusion of the mythical unicorn in his compilation, Topsell instead felt constrained to justify his inclusion of the rhinoceros, assuring his readers that it did indeed exist. As final proof, he drew their attention to the illustration:

> I would bee unwilling to write anything untrue, or uncertaine out of mine owne invention; […] as the beast is strange and never seene in our countrey, so my eye-sight cannot adde any thing to the description: therefore harken unto that which I have observed out of other writers. Lastly to put it out of all question that there is such a beast as this Rhinocerot, the picture & figure here expressed, was taken by *Gessner* from the beast alive at *Lysbon* in Portugale, before many witnesses, both Marchants and others; so that we have the Testimony both of antiquity and of the present age.[25]

Despite the animals' separate entries, Topsell's rhinoceros took on the characteristics of the ancient unicorn as his account progressed. He noted that in its capturing, a rhinoceros

> is taken by the same meanes that the *Unicorne* is taken, for it is said by *Albertus, Isidorus,* and *Alunnus*, that above all other creatures they love Virgins, and that unto them they will come be they never so wilde, and fall asleepe before them, so being asleepe they are easily taken and carried away.[26]

Gessner's and Topsell's works served only to embed the alleged properties of unicorn horns. These properties, together with the rarity of procuring a horn, established them as the most desired and expensive of items for an elite market, from Elizabeth I of England to the Habsburg emperors. The source for these horns was usually the narwhal, found in the Arctic circle and often referred to as the 'Unicorn of the Sea'. Almost two centuries after Polo's description of his unicorn, his natal city also acquired some unicorn horns, which were amongst the most valued items in the Treasury of the Basilica di San Marco. In 1488 the Treasury had a "unicorn horn" measuring 1.35 metres, constructed from three pieces of narwhal tusk and from fossilised bone. This was joined in 1512 by a substantial narwhal tusk of 2.34 metres, gifted by a Domenego di Zorzi. One of these horns was gifted in 1531 as a supreme diplomatic gesture to Süleyman the Magnificent after insistent lobbying by his grand vizier, Ibrahim Pasha[27]. The Venetian horns were displayed on the altar on the Feast Day of San Marco, the city's patron saint, and also on the Feast of the Ascension, known locally as 'La Sensa'. On these sacred days members of the city's patriciate were allowed to scrape powder from the base of these horns as protection from poison and other ills for the year ahead, until the practice had such a detrimental effect on the stability of the horns' bases that it was prohibited.

These elite consumers persisted in their beliefs and practices while simultaneously reading Polo's divergent account. Even those intimately acquainted with Polo's text were unable to disentangle themselves from its implications for understandings of the unicorn. Chief among these was the famous Italian geographer Giovanni Battista Ramusio (1485–1557), who

Figure 3. Francesco Griselini, Drawing of Giacomo Gastaldi and Giovanni Battista Ramusio's original Map of India and China, Museo Correr, Venice, Gabinetto di Cartografia, inv. Cart. 34. Detail showing a unicorn.
Photograph: Catherine Kovesi. With permission of the Fondazione Musei Civici, Venice

included his Italian translation of Polo's recount, *Dei viaggi di Messer Marco Polo*, in his odeporic collection *Navigazioni et viaggi* (1559). Ramusio and the cartographer Giacomo Gastaldi were commissioned by Doge Francesco Donà (r. 1545–1553) to provide details for four monumental maps of Venetian explorations for the walls of the Sala delle Mappa, the large hall in the Doge's Palace in which foreign dignitaries were greeted. In detailing their map of Asia, Ramusio and Gastaldi relied on Polo's accounts. As we know from a detailed drawing now in the Museo Correr in Venice, Gastaldi drew a unicorn on this map. But despite what Ramusio had read and translated, this unicorn was depicted as a rather bulky, white, four-legged creature with a prominent single horn protruding from its forehead – undeniably a standard unicorn (fig. 3).

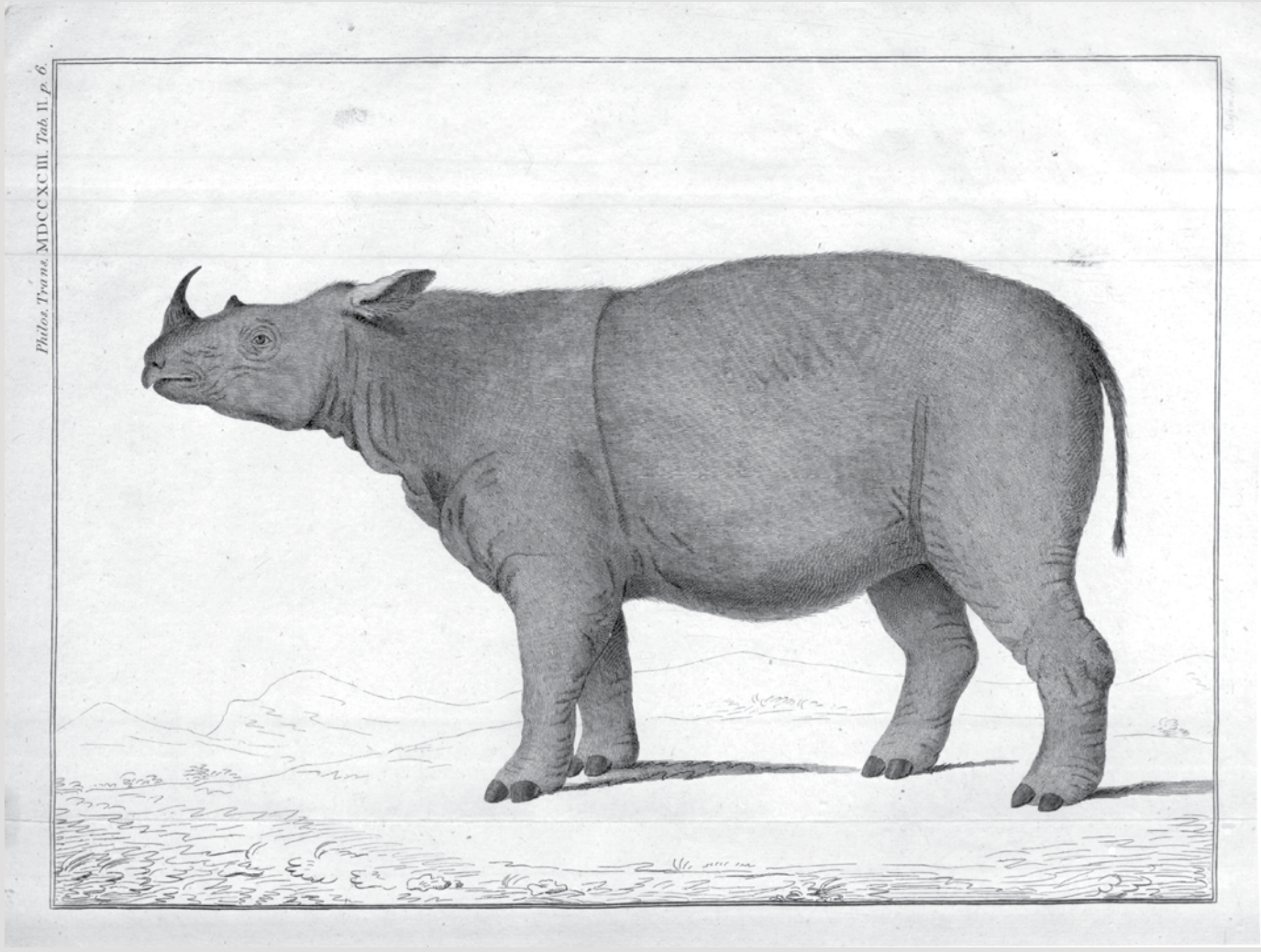
These maps were in need of restoration by the eighteenth century, and the task was entrusted in 1762 to Giustino Menescardi (1720–1776) under the direction of the great naturalist Francesco Griselini (1717–1781). Though instructed to maintain precisely what had been on the walls beforehand, a small but significant alteration was made to the original map. Where Ramusio and Gastaldi's map had depicted a unicorn, Griselini and Menescardi drew instead a perfect rendition of an Indian rhinoceros, which Hermann Walter has convincingly argued is none other than the rhinoceros Clara,[28] which famously toured Europe to wonder and amazement for 17 years from 1741 to 1758, arriving in Venice in 1751[29] (fig. 4). While for Ramusio and Gastaldi, Polo's animal was a unicorn, depicted using standard iconographical precedents, for Griselini and Menescardi there was no doubt that the unicorn described by Polo had to be a rhinoceros, and they worked to portray one as accurately as they could based on the most recent recorded encounter with such an animal in the flesh. Marco Polo's unicorn had finally become identifiably a rhinoceros – paradigm and reality had now merged.

The species merging of rhinoceroses with unicorns (and vice versa) that emerges from Polo's Sumatran encounter and its afterlife is not merely a historical curiosity but has important and often insidious consequences for attitudes to rhinoceros horn to the present day. Just as unicorn horns were the most highly prized objects for elites of late medieval and early modern Europe, today rhinoceros horn is the world's most expensive product by weight, trumping even gold and cocaine.[30] Eagerly sought after as status symbols, principally in a Vietnamese market,[31] these horns of simple keratin have been imbued with unfounded talismanic and prophylactic properties, with devastating consequences for rhinoceros populations. There is a tragic poignancy to the fact that it is Marco Polo's Sumatran unicorn that is the most endangered of all.

[1] Clarke 1986: 16–27; Kovesi 2022: 76–80
[2] De Matos 1960: 390, n. 196
[3] Clarke 1986: 16–27
[4] I am greatly indebted to the Venetian artist Gigi Bon for first alerting me to the relationship between Polo and the rhinoceros, and for her deep knowledge of the resonances of his writings (https://www.gigibonvenezia.com/sito/en/ and Kovesi 2021).
[5] The most complete manuscript of *Le divisement dou monde* is generally considered to be that in the Bibliothèque Nationale de France (BNF), MS F1116. The authoritative transcription of this manuscript with glossary is that of Eusebi and Burgio 2018.
[6] Eusebi and Burgio 2018: 187-190
[7] Translation with assistance from Véronique Duche. This is a more literal, and hence less literary, translation than those provided by others such as Henry Yule (Polo 1903/1920), but doing so enables the precise detail of the description to take centre stage.
[8] Polo and Rustichello, Chapter CLXV. Eusebi and Burgio 2018: 187–88
[9] Polo and Rustichello, Chapter CXXIII. Eusebi and Burgio 2018: 147
[10] For details see Fischer 1814; Groves 1967; Groves & Kurt 1972; Groves & Grubb 2011: 23; Rookmaaker 2024, 643 ff
[11] Cave 1977
[12] Banks & Bell 1793; Rookmaaker 2024: 652
[13] Rookmaaker 2024: 643
[14] https://www.iucnredlist.org/species/6553/18493355
[15] Eco 1997, trans 1999: 57–59; and Eco 1998: 54–55
[16] Eco 1998: 55
[17] *Indika*, 45; Ctesias 2011: 56-57
[18] Aelian: 4.52
[19] Pliny 1909: 8.29
[20] Pliny 1909: 8.31. Translation Pliny 1855
[21] Isidore of Seville 2006: 12
[22] Polo 1410–1412: fol. 59v
[23] Polo 1410–1412: fol. 85r
[24] Topsell 1607: 594–597; Kovesi 2022
[25] Topsell 1607: 596
[26] Topsell 1607: 597
[27] Sanuto 1900: Vol. 55, 178–181; Necipoğlu 1989: 405, n. 18
[28] Walter 1994
[29] Ridley 2004
[30] Biggs et al. 2013
[31] Vu et al. 2020

Figure 4. Francesco Griselini and Giustino Menescardi, Map of India and China, Doge's Palace, Venice, Sala delle Mappe. Detail showing a rhinoceros.

In 2025, fewer than fifty Sumatran rhino remain.



Description of the double horned Rhinoceros of Sumatra. by William Bell in 1793. Engraving.
Published in the Philosophical Transactions of the Royal Society of London

Sumatran rhinoceros at the American Museum of Natural History.
Photograph: Fritha Langerman, 2017.


CAPACITY: 1
CLEARANCE: 1.93M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