

SHIFTING GROUND

PEOPLE, ANIMALS, AND MOBILITY
IN INDIA'S ENVIRONMENTAL HISTORY

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From Eminence to Near Extinction

*The Journey of the Greater
One-Horned Rhino*

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Despite growing consensus regarding the pre-colonial past having been far from idyllic, engagements with India's ancient ecological past have, at best, comprised broad surveys of the ancient period.¹ This gap is particularly evident in the case of faunal histories with few exceptions that have moved beyond the general focus on the Mughal and the colonial periods.² Even within wildlife histories, the rhinoceros, curiously, has received scant attention as against the iconic status enjoyed by elephants and lions or the attention given to the tiger or the cheetah.

Against this backdrop, I endeavour to provide insights on eras bygone, in order to chart the passage of the animal across millennia and to situate it within the realms of culture and ecology. The story I piece together with the aid of diverse sources will attempt to weave in available archaeofaunal data along with glimpses of the creature in art and literary accounts. As will be evident, we are charting the

presence of the animal in various cultural niches from hunter-gatherer societies to the first urban civilization of India and beyond. The details of this story are thus integral to understanding aspects of the environmental history of ancient India as also for recovering echoes of the animal's presence in areas where it is now extinct.

A massive body, stumpy legs, and an armour-clad prehistoric look is what the mind construes of the Indian rhinoceros (*Rhinoceros unicornis*). Labelled as one of the two greatest success stories in rhino conservation (the other being the southern white rhino in South Africa), what is less known is that the animal is still vulnerable in the International Union for the Conservation of Nature's (IUCN) 2014 Red Data List of threatened species.

Past Distribution and Habitat

Of the multitude of rhino species distributed all over the world, only five survive. These include the Indian rhinoceros, the African white or square-lipped rhinoceros (*Ceratotherium simum*), the African black rhinoceros (*Diceros bicornis*), the Asiatic two-horned or Sumatran rhinoceros (*Didermoceros/Dicerorhinus Sumatrensis*), and the lesser one-horned or Javan rhinoceros (*Rhinoceros sondaicus*). Most have been threatened with extinction and almost all are in conflict with humans. Of these, the greater one-horned rhinoceros is known to have roamed the marshes of northern India—from Sind to the Brahmaputra valley, as well as the *terai* regions of Nepal and Sikkim.³

The magnitude of the impact of changes in human landscape on wildlife ecology can be gauged by the fact that a species abundantly distributed in grasslands and riverine floodplains till not so long ago, now exists only in Nepal, parts of West Bengal and Assam. The mention of habitat ties up crucially with the centrality of these giant plant-eaters to the ecological architecture of the tree-dotted tall grassland. Weighing nearly two tonnes, rhinos have a profound impact on the habitat in which they live. Their size and feeding habits influence the physical habitat and spatial distribution of other species in the ecological community. Conservationists caution that with the disappearance of rhinos, the vital 'landscape architecture' phenomenon also disappears and the resultant ecological changes can be swift and profound.⁴

As natural landscape architects, rhinos demonstrate the impact of selective browsing by mega herbivores on forest structure and canopy composition. Exclosure studies at Chitwan, Nepal, revealed how browsing and trampling by rhinos inhibited the vertical growth of *Litsea* and *Mallotus* saplings which occur in high densities in riverine forests. Rhinos, in this case, also played a prominent role in the dispersal of the seeds of *Trewia nudiflora*, a common riverine forest tree of southern Nepal.⁵

Retracing the Trail: The Testimony of Archaeology

Traversing back in time, fossils tell tales of extinct species of the animal. The genus can be traced back to the Pliocene of northern India though most known fossils of *Rhinoceros unicornis* seem to go back to probably the middle Pleistocene.⁶ However, the earliest known co-habitation with humans was noted in a middle palaeolithic context in the Son valley.⁷ Experts reported its presence in the terminal Pleistocene faunal assemblage of the middle Son valley, which together with a large proportion of cervids and equids indicated a landscape with substantial tracts of relatively open grassland.⁸ That the species was the *unicornis* was inferred from the presence of the animal in this region during the late Pleistocene.⁹

Here then were the beginnings of an interface which was to mature and manifest itself in the realms of subsistence as well as aesthetics. Holocene remains in early contexts are documented from the east in Uttar Pradesh, Bihar, to the west in Pakistan, Gujarat, Rajasthan, Maharashtra, and even as far south as Tamil Nadu. The *unicornis* figured in the faunal reports of the mesolithic/microlithic sites of Langhnaj¹⁰ and Kanewal¹¹ in Gujarat and Sarai Nahar Rai,¹² Damdama,¹³ and Mahadaha¹⁴ district in Pratapgarh, Uttar Pradesh.

An analysis of faunal material at the mesolithic site of Damdama, the dates for which place it in the first half of the seventh millennium BCE, revealed bones of large mammals like the elephant, rhinoceros, *gaur*, wild buffalo, and possibly wild cattle. The hunting of such large mammals for food was, however, questioned in view of the technological level of the mesolithic population. Instead, the carcasses or isolated bones were suggested to have been utilized for making bone tools. The bones of these large mammals were also found concentrated

on the southeastern part of the site and were well preserved without much charring or fragmentation. These were proposed to have been intentionally kept raw material for the preparation of bone tools and objects.¹⁵

Such investigations prove beyond doubt that the economic exploitation of this animal goes back to ancient times. However, the reservations expressed regarding the flesh of big mammals like the elephant and the rhinoceros having been consumed, need to be examined from a broader perspective. For this, we will need to take into account all the evidence including those derived from rock paintings (dealt with subsequently). Additionally, if the technological level of the mesolithic population permitted the utilization of the bones of a dead rhino (scavenged or hunted), then one wonders as to how the same technological level prevented them from utilizing its meat as well. It is evident that a large mountain of meat offered by a rhino would not be easily foregone. In fact, rhino hide, despite its tough appearance is known to be quite tender at places, making the animal far more vulnerable than it looks.¹⁶

At the site of Langhnaj in Gujarat, Frederick Zeuner painstakingly demonstrated how the deliberate pits on a shoulder blade of the animal at the site indicated its use as an anvil for making microlithic tools.¹⁷ Further, from the predominance of game animals in the food debris at the site, he inferred that the economy must have been largely dependent on them. Whether the rhinoceros was a possible inclusion in the diet is a matter of speculation since he mentions the animal as the most 'remarkable' of the game animals at the site.

Subsequently, however, Juliet Clutton-Brock concluded that all species at Langhnaj, except the mongoose and the wolf were part of the food economy, clearly reinforcing what Zeuner had hinted at 13 years earlier.¹⁸ Comparing the measurements of the scapulae of the three surviving Asian species led to the two rhinoceros scapulae at the site being attributed to the *unicornis*. Its presence with other swamp-living animals was considered indicative of the availability of perennial water in northern Gujarat during this period.

The evidence from Langhnaj is also considered interesting in view of the suggested contemporaneity between the late mesolithic occupation of Langhnaj and the Harappan site of Lothal, 100 km to the south of Langhnaj. This interpretation viewed Langhnaj as a campsite of

nomadic hunter-gatherers or pastoralists whose movements brought them into repeated contact with the urban agriculturalists.¹⁹ Since both sites yielded rhinoceros bones, it clearly testifies to the exploitation of the animal in hunting-gathering and agricultural contexts which co-existed with each other. It also underlines the fact that cultures do not necessarily follow each other in a chronological pattern and that an overlap and co-existence of cultures is not uncommon.

At Chirand in district Saran, Bihar, the animal's existence was reported in a neolithic context.²⁰ A moist and swampy prehistoric climate as compared to present-day dry conditions was inferred from the presence of the rhinoceros at the site.

In the Harappan civilization (c. 2600–1900 BCE), the creature asserted its presence both in the form of bones and art-terracotta figures and seals. We have traces of the animal in the form of archaeofaunal remains retrieved from the sites of Harappa,²¹ Kalibangan,²² Lothal,²³ Kuntasi,²⁴ Surkotada,²⁵ Khanpur,²⁶ and Shikarpur.²⁷ But given that the bones occur sparingly in the faunal collections of this period, it was considered unlikely that big mammals like the rhino formed any significant part of the diet. Rather, the bones were suggested to have been collected as curios or used for making stronger bone tools.²⁸

Even more significant is the archaeological evidence from peninsular and south India. We encounter rhinoceros bones in a neolithic context at Paiyampalli in district North Arcot, Tamil Nadu²⁹ and in chalcolithic contexts at Nevasa³⁰ and Inamgaon³¹ in Maharashtra, suggesting that the environment, at least in pockets of south India during the neolithic-chalcolithic period must have been conducive for the survival of large mammals like the rhino.

From issues of subsistence and tool-making, we pursue the animal in its trail to the domain of creative expression. That the animal had captured the artist's imagination from early times is apparent in the way it found favour as a subject for rock paintings. Explorations in the Mirzapur district of Uttar Pradesh revealed more than 15 figures of the one-horned rhino in the rock-shelters of the region.³² The sites were restricted to a particular area, roughly near the Son river in the southern region of the central part of the district. Moreover, rhino portrayals were encountered only in the paintings of earlier phases, suggesting that the animal may have become extinct in the area later

on. Far more interesting are extensive scenes presumably belonging to the mesolithic period, from Kerwaghat in the same district, showing the butchering of these animals.³³ At Bhimbetka near Bhopal in central India, six mesolithic hunters confront a giant rhinoceros with microlith-tipped spears, causing the animal to bleed. The perils of hunting are unambiguously conveyed when one hunter is tossed in the air by the horn of the rhino. Noteworthy is the contrast between animal and human power visible in the massive body of the rhinoceros with its sharp horn, open mouth, raised ears, and twisted tail juxtaposed against the tiny stick-shaped human figures.³⁴ X-ray style depictions are a clear indication of human familiarity with the anatomies of the animals they were hunting. In the Pachmarhi hills, mesolithic paintings depicting dances involved headdresses and animal masks representing, among other animals, the rhinoceros.³⁵

The paintings convey undiluted engagement with the subjects with generally no effort being made towards creating a background or foreground. It has also been observed that not all wild animals are portrayed, the representations being the outcome of a conscious selection that has been explained by human preoccupation with animals that mattered the most or those that formed a part of the diet suggesting that prehistoric artists were mainly interested in edible animals. The others such as the felines were represented only because they inspired awe.³⁶

The tradition of depicting the rhinoceros continued during Harappan times. Figurines in pottery as well as representations on seals are common at several sites. The regularity of portrayals and a closer look at them clearly indicates that the Harappans were seeing this animal more than frequently. The qualitative details and graphic fidelity of the depictions reveal an interaction close enough to facilitate careful observation of its anatomical features. The popularity of the animal as an object of portrayal can be safely inferred from statistics suggesting that depictions comprise 6.3 per cent of the total terracotta collection at Harappa, which is more than double the representations of sheep and goat.³⁷

Significantly, at Mohenjo-daro, though rhinoceros bones are not reported, the creature occurs frequently in the animal figurines, mostly made of terracotta and hence seems to have been found within close vicinity. Representations on seals, showing the animal standing

over a manger-like object, were arguably considered an indication of the animal having been kept in confinement after being caught young.³⁸ Similarly, the terracotta models at Lothal in Saurashtra are clearly indicative of *Rhinoceros unicornis*, which must have inhabited the swamps and marshes around the site in the protohistoric past.³⁹ It must be pointed out that Lothal is located in an open, partly swampy and fertile tract of territory called *Bhal* which was wooded with medium-sized and large trees, shrubs, and grasses in protohistoric times and the type of vegetation growing around swamps must have been congenial to rhinoceros and other animals.⁴⁰

It would be worthwhile to weave into this narrative a discussion regarding how animals like the rhinoceros have been perceived as markers of ecology. In the Harappan civilization, for instance, the ubiquitous presence of rhinos compared to the rarity of horses is intriguing as in any habitation horses are likely to be more common. This was attributed to a humid climate in the early part of the Mature period which nurtured a favourable *terra firma*.⁴¹ Earlier literature, however, argued that marshy habitat is not a prerequisite for the presence of rhinos nor should it be treated as an indicator of any particular climate.⁴² This interpretation argued that the climate was relatively dry and could support only sparse vegetation. Hence, both in Sind and Gujarat, animals like the rhinoceros were confined to the river valleys and their *nalas*.

A reconstruction of the ecological variables that formed a rhino habitat in Saurashtra about 4,000 years ago, also argued that rhinos exhibit a lot of flexibility when it comes to adapting to a particular ecological backdrop.⁴³ It argued that the floral record from archaeological sites in Saurashtra indicates the existence of xerophytic vegetation. Given that climatic conditions there have remained more or less stable in the last four millennia, it becomes vital to investigate the disappearance of the rhino from this region since other animals which shared the habitats of the rhino survive today.

The contention is that by the time Harappans arrived in Saurashtra, rhinos were struggling for existence in the eastern part (since thick forests in the western part hindered rhino penetration) and the Harappans, by locating their settlements near water courses, brought biotic pressures to bear on the already embattled rhinos.⁴⁴ Moreover, it was argued that as long as Harappans of the 'Mature phase' (c. 2300–1750 BCE) were given to trade and commerce there was no organized

pattern of land use. But a rise in population by Late Harappan times entailed an intensive pattern based on dry farming. The intrusion of cattle into grasslands also reduced the chances of the survival of the rhino populations in Saurashtra. Rhinos are known to become asocial when faced with dwindling food supplies and death rates mount.⁴⁵

Such early local faunal collapses were not unknown. The local extinction of the swamp deer or *barasingha* in Mehrgarh, Baluchistan around 300 BCE was probably a result of over-hunting and loss of its riverside habitat to cultivation. Its susceptibility to such disturbances also accelerated the process though it survived along the Indus till about a century ago.⁴⁶

Returning to what archaeology tells us, excavations have amply demonstrated that the animal's popularity transcended spatial and temporal barriers. Distant sites like Shortughai and Tell Asmar have yielded Harappan or Harappan-influenced seals with rhino depictions.⁴⁷ A terracotta figure of the animal is known from the chalcolithic level at Dangawada in Madhya Pradesh.⁴⁸ The continuity in the tradition of depicting the rhinoceros is also attested by the chalcolithic paintings at Ramchajja in Raisen district and Deurkothar in Rewa district of Madhya Pradesh.⁴⁹ Varsus, a site yielding Late Harappan material in the Dhulia district of Maharashtra, revealed a terracotta mask of a rhino.⁵⁰ A rock painting of a rhinoceros found in association with a post-Harappan script also came from Kanyadeh in the Chambal Valley.⁵¹

No survey documenting the journey of the rhinoceros would be complete without a mention of the celebrated hoard of bronzes at Daimabad, a chalcolithic settlement in district Ahmednagar, Maharashtra, assigned to a Late Harappan context and chronologically placed between circa 2000–1800 BCE. Given their magnitude and bulk, they were assumed to have been required for community religious purposes. Since all the bronzes had wheels, they were probably meant to be taken out in procession. This conjecture is reinforced keeping in mind a seal from Mohenjo-daro, depicting a religious procession, showing an elephant, a rhino, a tiger, and an indistinct animal in a file facing right.⁵²

Thereafter, there appears to be something amiss in the sources available to us. Though the tradition of rhino depictions persisted, portrayals progressively lessened. The paucity of evidence regarding

the animal after the Harappans is intriguing and the reasons are open to speculation. What is palpable is a gradual distancing of the animal from popular imagination which now gets captured with imageries of the mightier elephant and the faster horse.⁵³ Whether this had to do with the regularity with which the former as well as the latter were encountered, as also their potential to be tamed, controlled, and used vis-à-vis the rhino, is worth considering.

The realistic modelling of the terracotta figurines of the animal at Kausambi, district Allahabad, Uttar Pradesh, still indicated the familiarity of the potter with this creature. More or less arid or semi-arid in the present day, it is contended that much of this area in the third century BCE, was covered with forest and received a larger amount of rainfall than today. This inference seemed plausible in view of the references to jungles in the vicinity of Kausambi at the time of Buddha. Even during the times of the Chinese pilgrims Faxian (fifth century CE) and Xuanzang (seventh century CE), the whole area was probably covered with dense forest.⁵⁴ Scarce in Maurya times (c. 324–187 BCE), representations nevertheless continued. Rhino figures on a soapstone seal dated to the third century BCE from Bhita, Allahabad district, Uttar Pradesh, and on a soapstone disc, tentatively dated to the first century BCE, discovered from Murtaziganj near Patna, stand out as examples.⁵⁵ Other representations spread over time are at Sanchi, Begram, and Chandraketugarh.⁵⁶ The Buddhists and the Jains were also responsible for representations.⁵⁷ We meet the rhinoceros again in the Gupta period in the Rhinoceros-Slayer type coin of Kumaragupta I (c. 413/415–455 CE) with pompous legends both on the obverse as well as on the reverse.⁵⁸ The use of this mega herbivore as a symbol stands out as an innovation against the Tiger-Slayer type of Samudragupta (with the legend *vyaghraparakramah*) and the Lion-Slayer (*simhavikramah*) type of Chandragupta II. Its significance, therefore, has been a subject of much deliberation. Views have ranged from drawing political and military inferences to those that have attributed a religious significance to it. There are others that perceived the coin as another of the *mrgaya* or hunting type issued by the Gupta rulers, celebrating their love for big game. It has been argued that although coins of Kumaragupta depict the rhino, these are aberrations because they are not popular portrayals and are clearly in exaltation of the ruler slaying the animal and deriding its might.⁵⁹

The Gupta empire reached the peak of its territorial expansion during the reign of Chandragupta II (c. 376–413/415 CE) when it extended from Bengal to the northwest and from the Himalayan terai to the Narmada.⁶⁰ To us, the depiction of the animal on the coin is not just a device employed to assert the prowess of the ruler vis-à-vis forces to be reckoned with but is also an indication of the animal having been sufficiently around to be encountered during hunts at least in the Ganga valley. Yet, depictions in popular art were steadily decreasing. By early medieval times the rhinoceros was an animal that was least depicted even though it was not absent.⁶¹ Significantly, rhino representations continued but never again became a part of art associated with the masses, and the animal slipped into oblivion for almost a millennium till the Mughals rendered it visible once again. By the end of the sixteenth century, rhino depictions were again in vogue but only in art associated with the nobility.⁶² The reasons for this hiatus were certainly far more complex than just a decrease in numbers, for despite their dwindling fortunes the animal was still around till the time of the Mughals in parts of north India, well beyond its present-day confines. The possible explanations could be changes in popular imagination that now engaged more intensely with the elephant and horse as also derision arising out of lack of utility of the animal as a resource.⁶³

In Search of the Rhino in Literary Accounts

With the dawn of recorded history, literature casts additional light on this enigmatic creature. A brief review of some telling textual references to the rhinoceros helps take our story further.

The *Rgveda* (X 86,18) refers to the *parasvat*.⁶⁴

‘Vrsakapi found a killed *parasvat*, a butcher’s knife, a butcher’s bank, a new cooking pot and a cart loaded with fire-wood’, this passage argued to indicate that rhinoceros meat was edible.⁶⁵ However, though it is possible to cull more references to the *parasvat*, the endeavour is clearly not worthwhile in the absence of any specific physical characteristic aiding its identification as a rhinoceros.

We tread on firmer ground in our search for the armoured giant when we encounter the *khadga*, the word most commonly used for the rhinoceros. A pointer to the identity of the animal is that several

Vedic passages situate the *khadga* in the realm of fierce wild beasts and suggest that its hide is armour-like, an observation that accurately describes the Indian rhino.⁶⁶ The ecological sensibilities of ancient India come forth when the rhinoceros features with the elephant and water buffalo in the list of *kulacara* animals which live on the banks.⁶⁷

The *khadga* finds mention in the *Vajasaneyi Samhita* (24.40) which enumerates the animals to be tied to the 21 *yupas* (sacrificial stakes) and in the intermediate spaces during an *ashvamedha* sacrifice and dedicates different animals to different deities. While domestic animals are bound to the stakes, in the spaces between the *yupas* are confined wild animals among which features the rhinoceros. All these animals are not killed; some are set free after the fire is taken around them (*pariyagnikarana*). A rhino is one of those to be set free.⁶⁸ Though such contexts do not suggest anything more than a ritual association of the rhinoceros, we can perhaps turn to later Vedic material (which suggests an interest in the meat and skin of the rhinoceros) for more telling clues.

One learns, for instance, about the Vedic use of the rhinoceros in a ritual *dakshina* or priestly gift at the one-day Soma rite.⁶⁹ The *Sankhayana-Shrautasutra* (14.33.26) mentions that 'The sacrificial fee is a horse-chariot, coated with rhinoceros-hide, covered with tiger fell, with a quiver boar-hide, with a bow-case of panther-hide, drawn by brown horses'.⁷⁰ Similarly, the *Jaiminiya-Brahmana* (II. 103) expounds that '[t]he *dakshina* for this (ritual) is a horse chariot, yoked with four (horses) ... Its covering is made of tiger (-skin), its bow-case of leopard (skin), its quiver of bear (skin). There is a mounted warrior, with armour of rhinoceros (-hide), girded (for battle), along with a girded charioteer'.⁷¹ The combined ferocity of the animals was possibly employed to compel the 'respect' for which this ritual was undertaken.⁷²

Several ancient authors forbade the eating of 'five-nailed' (*pancanakha*) animals, except for a restricted list, which often included the rhinoceros. An interesting case has been made of how and why the rhinoceros came to be added to the list, particularly since it has only three toes and also because it is out of scale with the rest of the animals mentioned like the porcupine, hedgehog, monitor lizard, hare, and tortoise.⁷³ The rhino was considered a later inclusion, which though perplexing, can be explained by the way most *dharma* texts

of the time extol rhino meat as the best food to be served to ancestors. The *Apastamba-Dharmasutra* (2.17.1) enjoins:

‘With the meat of a rhinoceros offered on rhinoceros-skin, their (ancestors) gratification lasts an unlimited time’.⁷⁴ A similar injunction occurs in the *Gautama-Dharmasutra* (15.15).⁷⁵ In the *Manusmriti* (5.18) the *khadga* is amongst those five-nailed animals whose flesh a twice-born may eat and its flesh satisfies the manes for endless time (3.272).⁷⁶

Rhinoceros meat thus came to figure prominently in a food hierarchy remembered later even in the medical treatise of Sushruta, which also noted the purifying and macrobiotic qualities of rhinoceros meat when eaten on the occasion of a sacrifice to ancestors.⁷⁷ The sacrifice of the rhinoceros or other wild animals for a *shraddha* presupposed catching the victim in the forest suggesting possible links between hunting and sacrifice though the two social activities in principle remained separate.⁷⁸

In ancient texts, the catalogue of meats was generally based on the polarity between *jangala* and *anupa* (marshy lands). The *Sushruta Samhita*, following the same principle, worked out a hierarchy⁷⁹ in which the rhinoceros featured in the *kulacara* subdivision of the *anupa* category. ‘The meat of *khadgin* (rhinoceros) calms phlegm, astringent, it calms wind, propitious to the ancestors, purifying, good for longevity, very dry, it retains urine.’⁸⁰ The exalted status of rhino flesh in the food chain was attributed partly to Vedic ritual and partly to textually un preserved lore about the animal.⁸¹

In legends, the animal is associated with divinities like Vishnu and his incarnation Lord Krishna.⁸² Strangely however, despite its impressive size, famed ferocity, and legendary association with divinities, the rhino never became the vehicle or *vahana* of any god in the Hindu pantheon. It did figure as a vehicle of god Agni in Khmer art in Cambodia and also appeared in Jaina iconography as the *cihna* of the eleventh Jina, Shreyamsa, but did not get assimilated in the numerous *vahanas* in Hindu mythology and iconography.⁸³ An attempt to explain this anomaly contemplates if an ugly animal befits a god.⁸⁴ But a quick look at common mounts like the tiny mouse accompanying the elephant-headed Ganesha or the buffalo with Yama, the god of death, calls for a reconsideration of this view that underlines a charming appearance as a prerequisite for qualifying as a *vahana*.

One wonders, if this had something to do with its infrequent encounters with humans as also the fact that the animal was neither domesticated nor ridden nor did it perhaps evoke mortal fear of the kind that the carnivores did.

Not just the manes, rhinoceros meat was also a favoured delicacy for Ravana. Hanuman's description of the banquet hall of the demon king is unambiguous on this point.⁸⁵ In a duel between Bhima and Ashvatthaman, the latter struck the former with a *varaca* type of arrow, which struck Bhima's forehead and he is compared to a rhino with a horn on its head.⁸⁶ By the time of the epics and the puranas, the word *khadga*, however, in most cases denoted a sword.⁸⁷ It was when ancient authors began confusing both meanings of the word that they started using the word *ganda* for the animal.⁸⁸ Nevertheless, Kalidasa (4–5 CE) was still using the word *khadga* while describing Rama's feats in *Raghuvamsa*. In literature, after Kalidasa, the animal took a few centuries to reappear again in texts like the *Kalikapurana*.⁸⁹

Beyond its economic uses, we are told that animal fights, including fights of wild bulls, tame rams, rhinos, and elephants, were a royal pastime during the reign of Chandragupta Maurya.⁹⁰ Ashoka, on the other hand, forbade their slaughter. His fifth pillar edict clearly indicates that human depredations on wildlife had begun as it decrees: '[When I had been] anointed twenty-six years, the following animals were declared by me inviolable, viz. parrots, *mainas*, the rhinoceros, white doves, domestic doves, [and] all the quadrupeds which are neither useful nor edible'.⁹¹ Ashoka's word for the rhino is *palasata*, reminiscent of the Sanskrit *parasvat*.⁹² The *Arthashastra* of Kautilya, on the other hand, spells out to the Director of Forest Produce the following items as forest produce: 'skin, bones, bile, tendons, eyes, teeth, horns, hooves, and tails of the lizard, *seraka*, leopard, bear, dolphin, lion, tiger, elephant, buffalo, *camara*, *srmara*, rhinoceros, bison and *gavaya*, and also of other deer, beasts, birds and wild animals'. The Superintendent of Armoury is instructed to arrange for

machines for use in battles, for the defence of forts and for assault on the enemies' cities ... *nistrimsa*, *mandalagra* and *ariyasti* are swords. The horn of the rhinoceros and buffalo, the tusk of the elephant, wood and bamboo-roots form the hilts. A coat of mail of metal rings or metal

plates, an armour of fabrics, and combination of skin, hooves and horn of dolphin, rhinoceros, *dhenuka*, elephant and bull are armours.⁹³

The rhinoceros finds mention with other animals in the *Sudhabhojana Jataka* (535)⁹⁴ and the *Vidhurapandita Jataka* (545)⁹⁵ which envisions an aesthetic and captivating view of the landscape including troops of deer, lions, tigers, rhinoceroses, and other animals, when it mentions a magic jewel through which the entire world could be seen. The *Khaggavisanasutta* immortalized the animal by imploring one to live alone as the rhinoceros does: '*eko care khaggavisanakappo*'.⁹⁶ A prototype of Buddha is called *khadga* as he wanders alone.⁹⁷ This ancient characterization, significantly, corresponds with modern descriptions of rhinoceros behaviour.

Turning to medieval accounts, several Muslim travellers also wrote about encounters with the rhinoceros in India or Pakistan.⁹⁸ Alberuni's (c. 1030 CE) account of the *ganda*, reported them in large numbers in India, particularly around the Ganges, and according to him Brahmins had the privilege of eating its flesh.⁹⁹ Ibn Battuta saw them near the Indus in 1334 AD.¹⁰⁰ In 1398, Timur hunted the animal on the frontiers of Kashmir.¹⁰¹ Reviews illustrate how the Mughal rulers, despite their engagement with affairs of the state, were keen observers of the bounties of nature.¹⁰² In 1519, Babur hunted the rhino and reported 'masses of it in the Parashawar and Hashnagar jungles, so too between the Sind river and the jungles of the Bhira country. Masses there are also on the banks of the Saru river in Hindustan'.¹⁰³ His memoirs relate that mane-less lions, wild elephants, rhinoceri, and wild buffaloes used to roam the Mirzapur hills, and were actually seen around his camp at Chunar.¹⁰⁴ Humayun liked chasing rhinos on horseback, shooting arrows at them. Abul Fazl states that rhinoceros could be seen in Sambal Sarkar of Delhi during the reign of Akbar and mentions breast-plates and shields made of rhinoceros skin and finger-guards for bow strings from its horn.¹⁰⁵ The book of Sidi Ali, a Turkish admiral of Suleiman, mentions sightings near Kotal pass, west of Peshawar in 1556.¹⁰⁶ In 1622, Emperor Jahangir mentions a rhinoceros hunt in the neighbourhood of Aligarh.¹⁰⁷ A map of Mughal India sketched by Gentil, agent for the French government in Shuja-ud-daula's court at Faizabad, in 1770, shows the rhino in Awadh.¹⁰⁸ In fact, down to the eighteenth

century, North Bengal and Assam were marked by such an abundance of rhinoceroses that a French map describes that area as '*Contrée de Rhinoceros*' and late medieval temples in Bengal, approximately from the same period, are decorated with terracotta panels showing rhinoceros hunts.¹⁰⁹

Decline and Near Extinction

It was the introduction of modern firearms by the British and their intimate connection with *shikar* which proved to be its doom. In most accounts, the animal is belittled yet hunted. Colonel F. T. Pollock killed at least 47 rhinos in Assam and Bengal and left countless wounded. Not to be outdone by the British, the Maharajah of Cooch Bihar recounts having shot 207 rhinos between 1871 and 1907 in West Bengal and Assam.¹¹⁰ Additionally, the giving out of bounties in various provinces to eliminate 'dangerous' beasts like the elephant, the water buffalo, and the rhinoceros launched a ruthless war against these species.

Nevertheless, even in the nineteenth century, rhinos were still around despite having disappeared from much of northern India. T. C. Jerdon had heard from sportsmen of the occurrence of rhinos as far west as Rohilcund but they had become rare there when he wrote.¹¹¹ Hewitt reported rhinos in Uttar Pradesh near Nepal's western border until the 1870s, but the last one was shot in Pilibhit district in 1878.¹¹² Buchanan reported rhinos in most of the wild parts of Bhagalpur in 1810–11 and informed that formerly there were many in the marshes at the foot of the hills between Rajmahal and Sakrighali, and even in his time there were some there, but they had been much disturbed by sportsmen and had become scarce and exceedingly shy.¹¹³ The animal was also spotted in the district of Purnea, in the marshy woods of the south.¹¹⁴

By 1890, Indian rhinos had vanished from most areas except southern Nepal, the Bhutan Duars, parts of West Bengal, and the Brahmaputra valley of Assam.¹¹⁵ Apart from climatic, biotic, and temperature changes, mounting demographic pressure forced the animal to make way for human settlements and cultivation. Habitat destruction aided hunting and sounded the death knell, pushing the animal to the verge of near extinction.

The hapless creature was threatened in ways more than one. Legends abounding in folklore endowed it with a divinity that cost it dearly. Superstitions credited the rhino's horn, flesh, and other organs with almost curative and rejuvenating powers and thereby contributed to its slaughter for trade. Conservation efforts have left us with around 2,500 individuals of the species who survive to tell the tale of their journey through the tapestries of time and space. Often only echoes of the tales remain in once viable habitats. A long history of association with human cultures has been marked in the two centuries past with decline to the edge of the abyss of extinction. Extinction is but a few small steps away.

Following the trail of the rhino since prehistoric times thus presents a kaleidoscope of shifts in the fortunes of the animal that fluctuated with changing forms of human settlement and production as also with the ebb and flow of kingdoms and cultures. The animal has captivating stories to tell of perceptions, attitudes, and sensibilities, oscillating between veneration and persecution that provide vital clues for reconstructing early human interactions with it. As an animal of the grasslands, its fortunes are also a good index for mapping landscape changes in early India.

Notes

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 17. F. E. Zeuner, 'The Microlithic Industry of Langhnaj, Gujarat', *Man*, no. 182 (1952): 129–31.
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56. Bautze, 'Problem of the Khadga', pp. 413–15.
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58. On the obverse it runs as '*bharta khadgatrata Kumaragupto jayatyanisam*' while on the reverse it is *Sri Mahendrakhadgah*. The translation of the legends being somewhat problematic (since *khadga* can be interpreted as a rhinoceros as well as a sword and both are seen on the coin), is not dealt with extensively here. Nevertheless, one translation runs as 'Ever victorious is the Lord Kumaragupta who is *khadgatrata*, that is, a protector by the sword from the rhinoceros.' The legend on the reverse has been interpreted as 'Sri Mahendra, the swordsman' or 'Sri Mahendra, the slayer of rhinoceros' (cited in M. M. Nagar, 'A Rhinoceros Slayer Type Coin of Kumaragupta I', *Journal of the Numismatic Society of India* 11, Part I [June 1949]: 7).
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62. Joseph Manuel, 'Depiction of Rhinoceros', p. 36.
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74. Patrick Olivelle, *Dharmasūtras: The Law Codes of Āpastamba, Gautama, Baudhāyana, and Vasiṣṭha* (Delhi: Motilal Banarsidass Publishers Private Limited, Reprint 2003), p. 99.
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78. Zimmermann, *Jungle and the Aroma of Meats*, p. 183.
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85. Bautze, 'Problem of the Khaḍga', p. 412. However, it may be pointed out that the term *vardhranasakas* used in this context has been variously interpreted by commentators, one-interpretation being the rhinoceros. (See Robert P. Goldman and Sally J. Sutherland Goldman (trans),

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