

JOACHIM BAUTZE

**The Problem of the Khaḍga (*Rhinoceros unicornis*)
in the Light of Archaeological Finds and Art**

The rhinoceros, in Sanskrit literature most commonly called *khadga*, is the second largest land mammal in India and the fourth largest in the world, the other three being the African and Indian elephants and the African square-lipped or 'white' rhinoceros. Though it is therefore too large and impressive for being overlooked, it never became a vehicle of any god in the Indian pantheon¹ — unlike most of the other mammals including less spectacular species like rat or goat. Even mammals which could only be seen in certain parts of Northern India, as for example the camel were employed as *vahanas* of several local gods². The present paper makes an attempt to show why the rhinoceros, despite of its impressive size and power, played an inferior role in the history of Indian animals in art and lore³.

¹ In Khmer art, it became a *vahana* of god Agni. See Stönnner 1925; Moens 1948; Bhattacharya 1961: 139 ff.; van Lohuizen-de Leeuw 1955; esp. fn. 91-95. Prof. J.E. van Lohuizen-de Leeuw directed our attention to the existence of the rhinoceros in Khmer art when discussing with us the subject in 1982. The present article is only concerned with the Indian subcontinent (India, Pakistan, Bangladesh). All the photographs illustrating this article are by the author.

² We are indebted to V.S. Srivastava, Government Central Museum, Jaipur, for this information.

³ Ettinghausen (1950) considered the rhinoceros factor in the development of the unicorn motif. He calls the summary of his book 'The karkadann as a scientific and artistic problem' (pp. 143 ff.). Thus, the problem of the rhinoceros (*karkadann*) in the Islamic world has already been dealt with and will therefore be excluded from the present context.

The oldest Indian representations of the rhinoceros⁴ were made around 2000 BC in Harappa and Mohenjo-daro and several other places. The most naturalistic renderings are those on the well known seals (Marshall 1931: pl. CXI, nos. 341-7; Mackay 1938a: pl. LXXXV, nos. 131-40; pl. LXXX, no. 309; pl. XCIX, nos. 651 and 684; Vats 1940: pl. XCI, nos. 252-3) measuring about 3.5 × 3.5 cm or something less. The artists especially emphasized the tubercles on the animal's skin, which mostly looks like being clad in a coat of mail. For this reason, the Indian species of the rhinoceros is called *Panzernashorn* in German, a word which indicates the armour-like plates (*Panzer*) on the body of the animal. The distribution of these plates and of the bumps deserves special attention because in many cases the artists did not know, how to distribute them. Two examples from one and the same site may therefore differ considerably from each other. One rhinoceros seal from Mohenjo-daro has the armour-like plate (with its large pimpels) in the middle part of the body and on the shoulders as well as the hind quarters⁵, whereas another example from Mohenjo-daro is devoid of this armour in its middle part⁶. A dish-like manger in front of the rhinoceros in the last seal seems to indicate that it had been kept in captivity; however, we do not know for which purpose⁷. Most probably it served as food. That rhinoceros meat had been eaten is further suggested by the remains of rhinoceroses excavated between 1944 and 1963 at Langhnaj in Northern Gujarat, where two scapulae, one humerus, one talus, and a molar tooth have been found. 'A unique discovery was that a rhinoceros shoulder blade had

⁴ We are only concerned with the rhinoceros and not with the unicorn (representations of this motif are found in the art of the Indus valley civilization). The legend of *Ṛśyaśṛṅga* (Lüders 1897-1901) will also not be taken into consideration.

⁵ Mackay 1938a: pl. XCIX, no. 561 (= Mackay 1938b: fig. 36 = Mode 1944: 53, fig. 95 = Wheeler 1950: pl. IV(b), upper right = Wheeler 1953: pl. XXIII, upper right = Sivaramamurti 1977: col. pl. 14). Most of these reproductions show the imprints of the seals and not the seals themselves.

⁶ Marshall 1931: pl. CXI, no. 342 (= Fisher n.d.: pl. 13, bottom = Mode 1959: pl. 55, top).

⁷ This manger has been discussed at length by Mode 1959: 54-6.

been used as an anvil for the manufacture of microliths' (Clutton-Brock 1965: 1).

The rhinoceros has not only been depicted on square seals, it also appears on amulets⁸ and copper tablets⁹. In one square seal which has often been discussed and published in connection with the representation of a seated figure in its centre¹⁰, the rhinoceros appears among other animals, like tiger, elephant and buffalo. It also occurs along with other animals (elephant and crocodile) on a cylinder seal which was found at Tell Asmar (Frankfort 1934: pl. I a-b)¹¹ or even together with human figures in several rectangular sealings (Marshall 1931: pl. CXVI 10, 11, 13). Much less naturalistic in appearance, when compared to the representations mentioned so far, are the clay models of the rhinoceros (Marshall 1931: pl. XCVII 8-13; Mackay 1938a: pls. LXXVII 22, LXXIX 2-3; Mackay 1943: pl. LVI 8; Vats 1940: pl. LXXXIX 75-74) (figs. 1 and 2), where the horn has sometimes not been given its correct position (cf. fig. 2). The armour-plates were applied after the body of the figure had been modelled. The characteristic tubercles thus became small holes. These figures resemble toys in their comparatively simple execution and small size but we cannot be sure that they were actually used as toys. If we assume that animals like the rhinoceros played an important part in the life and religion of the Indus valley people, there is also the possibility that they had been worshipped in one way or another.

The terracotta rhinoceroses are no doubt primitive in execution when compared with the smaller steatite models¹² or the

⁸ Mackay 1938a: pl. XC, no. 13b; pl. CI, no. 1b, 14a; pl. CIII, no. 13.

⁹ Mackay 1938a: pl. XCIII, no. 7; Marshall 1931: pl. CXVII, no. 7.

¹⁰ Mackay 1938a: pl. XCIV, no. 420; pl. C, fig. F (= Mackay 1938b: fig. 32 = Mode 1944: pl. IV, fig. 1 = Wheeler 1950: pl. IV(b), top centre = Rowland 1953: pl. 4(C) = Wheeler 1953: pl. XXIII, top centre = Mode 1959: pl. 66, bottom = Wheeler 1959: pl. 18, bottom right = Mode 1961: fig. 69 = Zimmer 1968: pl. 2a = Härtel et alii 1971: pl. 3b, centre left).

¹¹ For a drawing of the seal imprint cf. Mode 1944: fig. 127 or Ettinghausen 1950: 83, fig. 2.

¹² Vats 1940: pl. LXXIX 74; Catalogue 1959: no. 51. Both examples are very similar although, according to the last mentioned catalogue, they stem from different places.

seals which are also made of steatite. However, we find the same difference when comparing Indian coins and stone sculptures of the last two millennia with clay models of gods and goddesses which are not without charm, but as a rule crudely executed.



Fig. 1 — Clay model of a rhinoceros, c. 2000 BC. Courtesy, National Museum, New Delhi.

Thus the small clay figures of Gaurī sold in the streets of Jaipur for the Gangore (Ganagaura) festival (Sharma 1978: 19-20) are only intended for short use during worship. We find different types of clay figures intended for temporary use in all parts of India up to the present day. Some of the clay-rhinoceroses may have served a similar purpose. Leaving such speculations aside, we should mention another terracotta example of considerable quality found at Lothal (Rao 1962: fig. 51). Only the head of the animal has been found, but from its size we may assume that the total height of this model was larger than the average size of most of the other clay rhinoceroses. A rhinoceros of equally

remarkable size but, unlike the Lothal example, made of bronze has been discovered at Daimabad, Ahmednagar District in Maharashtra. The animal stands on four wheels and is finely executed. It measures 19 cm in height and 25 cm in length. It has already



Fig. 2 — Clay model of a rhinoceros, c. 2000 BC. Courtesy, National Museum, New Delhi.

been noticed that in this model the mouth is slightly too long, thus resembling the snout of a boar (Dhavalikar 1978: 207, fig. 7; Schroeder 1981: 59).

Literary evidence throws additional light on the problem. H. Lüders (1973) could prove that the oldest word used for rhinoceros was *parasvat*. It occurs in *Rgveda* X 86,18: 'Vṛṣākapi 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 already indicates that rhinoceros meat was edible. H. Lüders also quotes a verse in the *Atharvaveda* (VI 72,2.3) according to which the *parasvat* is known for the immense size of its penis (Lüders

1973: 518). The genitals of a rhino are in fact quite large and it may be for this reason that the *parasvat* is mentioned together with Kāma, god of love, in the *Kāthakasamhitā* V 7,11 and *Taittirīyasamhitā* 5,5, 21,1. Apart from that the *parasvat* has also been connected with Iśāna, for whom it should be sacrificed, following H. Lüders who quotes *Vājasaneyisamhitā* 24,28 and *Maitrāyaṇṭsamhitā* 3,14,10.

The most common word for rhinoceros was *khadga* which does not seem to be of Sanskrit origin (Mayrhofer 1953: 299). It appears in the *Vājasaneyisamhitā* (24,39) (ed. Weber 1972: 746) and *Maitrāyaṇṭsamhitā* (III 14,21) (ed. von Schroeder 1881: 177) where it is connected with the Vaiśvadevas. In one instance, the *khadga* is mentioned along with the *parasvat*: 'parasvati me 'samṛddhiḥ khadge ma ārtih', 'in the parasvat my failure, in the khadga my misfortune' (*Baudhāyana-Śrautasūtra* 2,5) (ed. Caland 1904: 38). From other, partly later texts the interest in the meat and skin of the rhinoceros becomes evident. We learn from the *Śaṅkhāyana-Śrautasūtra* (14,33,20) (ed. Hillebrandt 1888: 167): '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' (transl. Caland 1953: 395). The *Jaimintya-Brahmaṇa* (II 103) mentions a combatant who stands in a chariot, clad in a coat of mail made of rhinoceros-hide. This coat of mail is called *khadga-kavaca* in the text (ed. Caland 1970: 156). Even up to the end of the 16th century, rhinoceros-hide served a similar purpose¹³. Shields made of rhinoceros-hide, some preserved in the Maharaja Sawai Man Singh II Museum of Jaipur, were in use in Rajasthan up to the 18th century. The skin of the rhinoceros was also used for making vessels which were employed in sacrifices.

Reference to such vessels is made in the *Viṣṇusmṛti*. According to the translation of J. Jolly, they were made of rhinoceros horn. The original text however, does not mention the horn as such. We may assume that J. Jolly had been misled by the occasional custom to use rhinoceros horns as drinking cups (in

¹³ The war elephants of Akbar were covered with rhinoceros-hide, see Father A. Monserrati's Account translated and edited by Rev. H. Hosten 1912: 212-3.

Europe on account of the popular belief that the rhinoceros horn indicated a poisoned drink). It would, however, appear that this custom was unknown in India. The history of the rhinoceros in Europe has already been dealt with extensively¹⁴.

The *Āpastamba-Dharmasūtra* (II 7,17,1) (ed. Bühler 1892: 78) mentions a cover made of rhinoceros-hide: 'khaḍgopastarane khaḍgamāmsenānantyaṃ kālam'. G. Bühler (1969, I: 143) translates: '(If) rhinoceros' meat (is given to Brāhmanas seated) on (seats covered with) the skin of a rhinoceros, (the Manes are satisfied) for a very long time'. According to the *Gautama-Dharmasūtra* (XIV 15) (transl. Bühler 1969, I: 256) the manes are also satisfied for a long time if, amongst other things, meat of the rhinoceros mixed with honey is offered to them. Likewise, *Viṣṇusmṛti* (transl. Jolly 1977: LXXX 14, p. 249), *Manusmṛti* (transl. Bühler 1886: III 272, p. 125)¹⁵, the *Matsyapurāṇa* (ed. Akhtar 1972: 57), *Kārmapurāṇa* (ed. Gupta 1972: 400), *Agnipurāṇa* (transl. Shastri 1967: 628), *Viṣṇupurāṇa* (transl. Wilson 1866: 194) and the *Mahābhārata* (transl. Roy n.d.: 146) (only to mention some texts) inform us about the same rule: the manes are satisfied for a long time 'up to eternity', if rhinoceros meat is offered to them.

Several ancient authors also mention the rhinoceros while enumerating five or seven 'edible animals with five claws', e.g. Gautama, Manu and Āpastamba¹⁶. Vasiṣṭha mentions edible animals in a similar context. He nevertheless adds (XIV 47): 'But regarding the rhinoceros and the wild boar they make conflicting statements' (transl. Bühler 1969, II: 74). Curiously enough, Bau-dhāyana mentions the same five animals as Manu, but regarding the rhinoceros he makes a contradictory remark: 'The porcupine, iguano, hare, hedgehog, and rhinoceros are to be eaten, with the exception of the rhinoceros' (ed. Hultsch 1922: I 5,12.5, p. 23).

¹⁴ The latest contribution to the subject is probably Heikamp 1980.

¹⁵ According to a synopsis of parallel passages on p. 546, a similar verse occurs also in the *Gautama-Dharmasūtra* XV 15, the *Āpastamba-Dharmasūtra* II 17, 1-3, and in the *Yājñavalkyasmṛti* I 257.

¹⁶ Gautama: *Gautama-Dharmasūtra* XVII 27; cf. Lüders 1940. Manu: V 18; transl. Bühler 1886: 172. *Āpastamba-Dharmasūtra*; ed. Bühler 1892: 32; transl. Bühler 1969: 65.

Not only the manes but also Rāvaṇa was amongst those who enjoyed rhinoceros meat. This is related by Hanumān while describing the banquet hall of the demon king¹⁷.

The horn of the rhinoceros which became so important in China, as well as in Europe, has been mentioned but rarely. In the *Mahābhārata* (8,6,37, Crit.Ed.) we read: 'With golden and earthen jars filled to the brim with water and sanctified with mantras, with tusks of elephants and horns of rhinoceroses and mighty bulls... Karna.. was invested with the command' (transl. Roy n.d., VII: 23). The word *khadga* occurs frequently in the epics and *purānas*, but in almost all cases it denotes a sword. When the ancient authors started to confuse both meanings of the word, they employed another word for the animal, namely *ganḍa*¹⁸. Kālidāsa still used the word *khadga*, when he described Rāma's feats in *Raghuvamśa* 9,62 (ed. Narayan Ram Acharya 1948: 239): 'Souvent il allégeait les têtes des rhinoceros en les dépouillant de leurs cornes à l'aide de ses flèches acérées; comme il avait pour tâche de sévir contre l'orgueil, il ne supportait point que la corne de ses ennemis se dressât en l'air; il ne leur laissait que la vie' (transl. Renou 1928: 101; cf. also transl. Nandargikar 1971: 285). From Kālidāsa, i.e. from the Gupta age onwards, it apparently took a few centuries until the animal reappeared in various texts such as the *Kalikāpurāna* (ed. Sastrī 1972: 492, v. 67,4a).

Unfortunately, all these textual references to the rhinoceros can hardly explain its representations in archaeological finds and in art objects. From the Indus valley finds we can merely assume that the rhinoceros had been a sacrificial animal and that traces of its cult possibly penetrated into vedic texts after the Aryans were settled in India for some time. The oldest mention of the rhinoceros occurs in the 10th and latest book of the *Ṛgveda*. The

¹⁷ 5, 9, 13a in the Crit. Ed. The word rhinoceros, *vārdhirānasa* in the text, does not appear in the translations of the *Rāmāyana* (cf. the translations of R.T.H. Griffith, Varanasi, 1963 [Chowkhamba Sanskrit Studies, vol. XXIX] p. 402 and H.P. Shastri, vol. II, London, 1957, p. 362). I am grateful to Dr J. Brockington from the University of Edinburgh who kindly supplied this reference.

¹⁸ According to Mayrhofer 1953: 318, this word does not seem to be of Indo-Aryan origin.

assumption of a borrowing from pre-Aryan tradition is supported by the fact that the words *parasvat*, *khadga* and *gaṇḍa* are not of Indo-Aryan origin. It would hardly be advisable to speculate about the role of the rhinoceros in the cult or religion of the Indus valley civilization since we cannot even read the inscriptions on the seals. The archaeological finds from historical periods, which are dated stratigraphically or through their inscriptions, are limited in number.

In 1951, 21 soapstone discs were accidentally discovered in the Mahalla of Murtaziganj near Patna (Shere 1951). These stone discs have tentatively been dated into the 1st century BC. One of these discs measures 5.1 cm in diameter and shows a rhinoceros in the company of an elephant, a horse, two peacocks, and a few stags (Shere 1951: 184, pl. VII 3; cf. Gupta 1965: 346-7, pl. LV bottom left). The use of the stone discs is still a mystery.

A seal from Bhita (Uttar Pradesh) showing a rhinoceros is preserved in the Allahabad Museum. It is also made of soapstone and has been dated into the 3rd century BC. It measures 6.6 × 6.3 cm. 'The animal, in what seems to be a flying gallop, moves to the right. The bulky body is divided into two globular parts, each enclosed by a ridged border. The small tail hangs close to the back and a horn is visible at the end of the snout' (Chandra 1970: 36; no. 3, pl. II).

Chronologically, the first known stone relief showing a rhinoceros is a half medallion at the lower part of the northernmost *vedikā* pillar of Stūpa no. 2 at Sanchi (Marshall & Foucher 1940: pl. 78, 24a). The rhinoceros, rather clumsily executed if compared to other reliefs of the same *vedikā*, stands facing left in front of a huge lotus bud. The armour-like plates are not indicated. Were it not for the horn at the snout, the identification of this animal would be difficult.

Will Buddhist sources help us to explain the presence of the rhinoceros on a Buddhist monument? As is well known, only a few sculptured panels on the *vedikā* of Stūpa no. 2 at Sanchi can be linked directly with Buddhist tradition.

King Aśoka forbade the slaughter of rhinoceroses whereas Chandragupta Maurya had enjoyed seeing them fighting in his

arenas¹⁹. In his 5th pillar edict, Aśoka proclaims: '(When I had been) anointed 26 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' (Hultzsck 1925: 12); also cf. Bhandarkar 1969: 309). This edict could of course not prevent the gradual extinction of the Indian rhinoceros which is today confined to Assam and parts of Nepal. Aśoka's word for rhinoceros is *pala-sata* which is derived from Sanskrit *parasvat*. The animal is also mentioned in the *Sudhābhōjana Jātaka* (535) and the *Vidhurapaṇḍita Jātaka* (545) (ed. Fausbøll 1891: 406; 1896: 277). A magic jewel through which the whole world can be seen is described in the latter *Jātaka*: 'See on the slopes of the mountains troops of various deer, lions, tigers, boars, bears, wolves, and hyenas; rhinoceroses, gayals, buffaloes, ..., all kinds of hosts, created in the jewel' (transl. Francis 1957, VI: 135). The rhinoceros appears in the *Sudhābhōjana Jātaka* together with many other animals (transl. Francis 1957, V: 216). Apart from the inclusion of the rhinoceros in such lists²⁰, the animal became immortalized by a text which was named after the rhinoceros: the *Khaggavisāṇa-sutta* (Pali *khagga* is the equivalent of Sanskrit *khadga*). The line 'eko care khaggavisāṇa-kappo' — 'live, as lives th' rhinoceros, alone!' (*Sutta-Nipāta*, Vagga 1, Sutta 3: ed. & transl. Chalmers 1932: 10-21)²¹ is repeated at the end of all except one verse.

Though there are also several references to the rhinoceros in Buddhist texts, we do not get any substantial information.

An ancient representation of a rhinoceros made of ivory comes from Begram and is datable to the 1st century AD (Hackin

¹⁹ Waldschmidt et alii 1950: 66, reference to Megasthenes; also compare Majumdar 1960: 66, reference to Greek writers.

²⁰ Further animal lists including the rhinoceros can be mentioned easily. For another Buddhist list, see e.g. *Lalita-Vistara* (ed. Vaidya 1958: 222, 1.8; transl. Foucaux 1884: 262. For a Jaina list, see e.g. the *Praśnavyākaranāṇi*, Suttāgame Ed., vol. I, p. 1200, l. 27. For a Brahmanical list, see e.g. *Harivaṃśa*, Crit. Ed., 31,84c ('khadgamukha'); transl. Langlois 1835: 489.

²¹ Also cf. Edgerton 1953, II: 202b-203a, s.v. 'khadga'. Prof. K. Bruhn directed our attention to a parallel expression in a canonical Jaina text: *Aupapātika Sūtra* (Leumann 1883: § 27).

1954: 202, no. 150 u.5, fig. 186). Here the rhinoceros stands within an oval-shaped medallion facing left. The back of the animal seems to be covered by a blanket with a rhombic pattern²². Were it not for the small horn on the snout of the animal, the correct identification would again be a difficult task²³.

The archaeological excavations at Chandraketugarh (near Calcutta), carried out between 1956-57, brought to light a large number of terracottas. Among the finds is a fragment of a terracotta plaque showing a rhinoceros (Das Gupta 1959: fig. 19). It dates from the Kushana period as it has been found along with other terracottas which can be assigned to that period. Though this plaque has been found in an area where rhinoceroses must have lived in great number, we cannot connect it with any inscription from that part of India. In the 7th century we hear from three Eastern Indian Kings, viz. *Khadgodiyama*, his son *Jatakhadga*, and the latter's son *Devakhadga*²⁴. Whether the word *khadga* occurring in the copper-plate grants of these kings has to be translated by 'rhinoceros' or by 'sword' cannot be decided. We are used to associate Bengal mainly with the tiger, but down to the 18th century, North Bengal and Assam were so rich in rhinoceroses that a French map of India describes that area as 'Contrée de Rhinoceros'²⁵. Late medieval temples in Bengal, approximately from the same period as the French map, are decorated with terracotta panels showing rhinoceros hunts (Haque

²² Almost the same rendering of the back of the rhinoceros is found in an Indian miniature painting of the 18th century. See Kühnel & Ettinghausen 1933: no. 22 (= Kühnel 1937: no. 19).

²³ J. Auboyer identified this animal as 'tapir (?)', cf. Hackin 1954: 66.

²⁴ Majumdar 1971: 86 ff., 'Date of the *Khadga* Kings'. Also compare *Kṛṣṇo-paniṣad* 20, '*khadgarūpo maheśvaraḥ*', where the translation 'sword' for *khadga* as suggested by the commentary does not seem to be quite certain. See ed. Jacob 1891: 10.

²⁵ Since this map is not catalogued in Cole 1976, we supply the full details: 'Presqu'Isle des Indes Orientales en deçà du Gange, Comprenant l'Indostan ou Empire du Mogol, différens Royaumes ou Etats; les vastes Possessions des Anglais (d'après leurs propres Cartes) et les autres Etablissemens Européens avec les Grandes Routes; par M. Brion de la Tour Ingr. Geog. du Roi. A Paris..., 1781'. Size: 76.5 × 53 cm (height precedes width).

1975: pls. XLI 7, XLII 12)²⁶. It would thus hardly be surprising if in a Bengali inscription yet to be discovered the word *khadga* would clearly refer to a rhinoceros.

The rhinoceros appears, along with an inscription mentioning the word *khadga*, in a gold coin from the reign of Kumāragupta I (415-c. 455). The inscription reads: 'Bhartā khadgatrātā Kumāragupto jayatyaniśam' (Altekar 1957: pl. XXII, no. 36). This coin, commonly called the Rhinoceros-Slayer Type of Kumāragupta was unknown before the discovery of the Bayana Hoard in 1946 (Altekar 1954). In it, Kumāragupta is shown riding a horse and attacking a rhinoceros with a sword. The rhinoceros turns its head towards the rider and opens its mouth. The circular spots on the skin of the rhinoceros are distributed all over the body. The correct translation of the inscription is controversial: *khadga* can again be translated by 'rhinoceros' as well as by 'sword' since both objects appear on the coin (Nagar 1949; Chimulgund 1955; Sohoni 1956; Prakash 1963; Sircar 1966)²⁷.

The first polychrome representation of a rhinoceros is connected with Jaina art. It is a painting on a wooden manuscript cover (*paṭlī*) which dates from the 13th century or earlier. It is preserved in Jaisalmer (Rajasthan). Remarkable are the long ears of the animal and the subdivisions on its skin. Like the example from Sanchi, it stands facing left, in front of a Lotus, in a medalion (Nawab 1959: col. pl. Y = fig. 35; Khandalawala & Doshi 1975: pl. 268A). In the iconography of the Jainas the rhinoceros is the *cihna* (cognizance) of the 11th Jina, Śreyāṃsa. The first text that mentions the rhinoceros as a *cihna* belonging to the 11th Tīrthaṅkara is the *Tiloyapaṇṇatti* by Yativṛṣabha (ed. Upadhya & Jain 1956: IV 604-05)²⁸. This text has been dated to the 6th-8th

²⁶ The animal in fig. 12 of Haque 1975 has not been identified but the rendering of its skin 'having markings resembling wooly-knots all over its body' (*ibid.*: 125) suggests that the artists wanted to represent a rhinoceros. This device is already found at Paharpur, cf. Das Gupta 1961: 31.

²⁷ For further reproductions see Altekar 1957: pl. XIII, nos 3-6; Altekar 1954: pl. XXX, nos. 5-8; Sivaramamurti 1977: col. pl. 47.

²⁸ Another Digambara text which mentions the *cihnas* is the *Pratiṣṭhāsāroddhāra*, dated samvat 1285. I am grateful to Prof. K. Bruhn who kindly supplied information on the history of the *cihna*.

centuries (A.N. Upadhye) but it contains interpolations (U.P. Shah). Astonishingly, the earliest representations of the *cihnas* in art are much older than the earliest available references in Jaina literature. The first *cihnas* appear in Rajgir at the time of Candragupta II (around 400 AD). Though there are only few examples from that early period, we can be fairly sure that all the Tirthaṅkaras got their *cihnas* approximately at the same time. Representations of Śreyāṃsa (Śreyāṃsa = Jina image with rhinoceros *cihna*) seem to be rare. At least three images of this Jina, made of white marble, are preserved in a Jaina temple at Sanganer (Rajasthan). They may date from the 14th century or even later. All the three Jinas are seated and devoid of any attendant-figures. The rhinoceros is represented clearly within a rectangular field on the pedestal of each sculpture. It resembles the representation of the rhinoceros in the above mentioned *paṭlī* (fig. 3). The earliest known Śreyāṃsa image is possibly a piece in the Sarnath Museum (post-Gupta period?) (Sahni 1972: 328, no. G. 62). A published Śreyāṃsa image in the Nagpur Museum may date from the 11th century (Bhattacharya 1974: pl. XVI).



Fig. 3 — Rhinoceros *cihna* on the pedestal of a Śreyāṃsa-image in Sanganer (Rajasthan), c. 14th century.

It is surprising that literary evidence for the *cihnas* of the various *Indras* in the Jaina pantheon is already found in the *Aupapātikasūtra* of the Śvetāmbara canon (Leumann 1883: § 37; also Kirfel 1920: 302-3; Ramachandran 1934: 120-1). These *cihnas* appear on the crowns (*mukutaś*) of the *Indras*, and amongst them we find the rhinoceros (*khagga*). There are, however, no representations in art ²⁹.

The Jaina author Hemacandra gives four names for the rhinoceros, viz. *khadgī*, *vadhrīṇasah*, *khadgo* and *gaṇḍako* (ed. & transl. Boehtlingk & Rieu 1847: 1287, p. 242), whereas Dhanapāla, another Jaina author, mentions in his *Pāiyalacchī Nāmamālā* only two of these names, viz. *gaṇḍao* and *khaggo* (ed. Bühler 1879: 49, v. 265c) ³⁰.

The first dated representation of a rhinoceros is, as most of the examples given in the sequel, a miniature painting. It is a small painting (3 cm in height) which forms part of an illustrated manuscript of the *Āraṇyakaparvan*, the 3rd book of the *Mahābhārata* (Khandalavala & Chandra 1974: fig. 42). Its colophon dates the manuscript into AD 1516. In the illustration, the rhinoceros — shown with a large head and long ears — tries to escape from the arrows of a hunter, who is identified by an inscription above the animal as a hunting Pāṇḍava. The skin of the rhinoceros has been pierced by five arrows: the armour-plated skin of the game was not impenetrable to the arrows of a hunter. The authors of the monograph in which this rhinoceros is reproduced do not mention any specific stanza(s) illustrated by the painting. According to the folio number, the scene most probably illustrates III 46,7-8: 'With his arrows he laid low ruru deer and black gazelles and other sacrificial forest game...' (transl. & ed. Buitenen 1975: 314). The black gazelles are in fact represented in an adjoining illustration. Although the rhinoceros is not mentioned as such, it has been depicted by the artist. Similarly, a rhinoceros appears

²⁹ A very late book illustration shows a unicorn instead of a rhinoceros. See Caillat 1981: pl. 33.

³⁰ Another edition of this text was published in the 'Pūjyaśrī Kāstrāma Jaina Gramthamālā: Prathama Puṣpa', ed. by B.D. Doshi with a Hindi commentary. Dr Nalini Balbir kindly drew my attention to these editions. For the etymology of the word *gaṇḍa*, cf. Kohl 1954: esp. 370.

on a folio of a now widely dispersed illustrated set of Books X-XI of the *Bhāgavata purāṇa*, which plays an important part in miniature paintings from the 16th century onwards. Probably the manuscript has been painted only a few decades later than the *Āraṇyakaparvan*. It has been called 'Palam *Bhāgavata*' by some authors (Khandalavala & Mittal 1974). The folio here referred to shows Kṛṣṇa in a chariot shooting arrows at various animals amongst which a rhinoceros stands out as the largest (Hutchins 1980: col. pl. 15). The other flying animals are tigers, hares, snakes, boars, deers and a fox-like quadruped. The rhinoceros is again not mentioned in the respective passages of the *Bhāgavata-purāṇa*. We are not surprised to see the rhinoceros also on a folio of an illustrated Jaina text, the *Mahāpurāṇa* of the Digambaras (Khandalavala & Chandra 1969: col.pl. 19b). The manuscript is dated 1540. The rhinoceros is shown roaming in a forest along with many other animals.

By the end of the 16th century the rhinoceros becomes a common element in Mughal paintings. In the Vienna *Ḥamza Nāma* it is the vehicle of the villains. Thus several rhinoceroses have to be slain by the various heroes of the story (Glück 1925: pl. 28 = Egger 1974: col. pl. 34; Glück 1925: pl.46 = Egger 1974: col. pl. 56). The Vienna *Ḥamza Nāma* has possibly been illustrated between 1562 and 1577 (Beach 1981: 58 ff.). Since Bābur mentions the rhinoceros several times in his memoirs, it appears in the *Bābur Nāma* manuscripts either as game pursued by Bābur himself, or quite alone ³¹.

Apart from the *Ḥamza Nāma* and *Bābur Nāma* it appears for almost three centuries (end of 16th to end of 18th century) on paintings illustrating different mythological, historical, narrative, and scientific texts. Three major groups of illustrations containing a rhinoceros can be established.

³¹ See Smart 1977. This is the most comprehensive work on the subject. It supplies the exact references to the English translation of the text. There are at least 10 folios showing rhinoceroses (one or more than one). The following examples have been listed by Smart: A37 right; A37 left (*Sotheby's Sale Catalogue*, 7 March 1921, lot 15); B43 right (Suleiman 1970: col. pl. 46); B49 right (*ibid.*: col. pl. 52); B52 (*ibid.*: col. pl. 56); C48 right (Ettinghausen 1950: pl. 32 = Smart 1977: pl. 47); C55 (Tyulayev 1960: pl. 36 = Soustiel 1973: ill. p. 60); D56 right; D62 right (Ali 1973: col. fig. 3).

- I. The rhinoceros among peaceful animals.
- II. The hunted rhinoceros.
- III. The rhinoceros as the most prominent part of the illustration ('portrait').

Most of the paintings to which we have referred so far can be assigned to one of these three groups. The groups may be subdivided as follows —

- I.1. Lailā and Majnūn³².
 - a. Majnūn alone surrounded by his animals³³.
 - b. Lailā visiting Majnūn in the middle of his animals (fig. 4)³⁴.
2. 'The animal world'³⁵.
3. 'Emaciated animals'³⁶.

³² Ettinghausen 1950: 49, 'The subject was popular for Nizāmī illustrations in Persia as well as in seventeenth- and eighteenth-century India, and since the Indian artist delighted in giving a large and varied number of animals, it is reasonable to inquire whether or not the rhinoceros might be found in the peaceful company around the poet. So far only two examples [*sic!*] of this type have turned up'.

³³ Cf. Nizami, transl. Gelpke 1963: 196 ff., 'Die Freundschaft Madschnuns mit den Tieren der Wildnis'. An English translation by R. Gelpke was published in 1966. Examples for I.1.a.: 1) Binney 1966: no. 73 (= Binney 1973: 74, no. 48); 2) Sotheby's 21 April 1980, lot 130, p. 83; 3) Sharma 1974: cat. no. 6, pl. 5, dated 1614 (= Catalogue 1978: 95, no. 130); 4) Sotheby's 7 July 1975, lot 13, p. 8; 5) Sotheby's 11 April 1972, afternoon sale, lot 115.

³⁴ For the text cf. Gelpke's transl., referred to above, 'Leila und Madschnun begegnen einander', pp. 267 ff. Examples for I.1.b.: 1) Bodleian Library 1953: pl. 14; 2) Sotheby's 3 April 1978, lot 84, p. 79; 3) Strzygowski & Glück 1923: col. pl. 7; 4) our fig. 4, National Museum, New Delhi (reproduced by courtesy of the National Museum); 5) British Museum, Stowe Or. 16, 1974-6-17-021, fol. 27b, listed in Titley 1977: 16; 7) Ettinghausen 1950: pl. 36; 8) Kala 1961: pl. 8; 9) Bodleian Library, Oxford, Ms. Ouseley, Add. 166, fol. 13v.

³⁵ 1) Ettinghausen 1950: pl. 37 (= Krishna 1955-56: pl. XIX 1 = Alvi & Rahman 1968: pl. 1 = Atil 1978: no. 70, p. 116, colour = Beach 1981: 192, no. 19); 2) Beach 1981: 192, fig. 40.

³⁶ Sotheby & Co., 25-26 November 1968, *Bibliotheca Philippica*, N.S., pt. 4, lot 378, p. 120 (= Christie's 16 October 1980, lot 59, p. 34, colour). The two rhinoceroses of this miniature appear again, in a completely different setting, in a painting where angels offer food to a holy man. Compare Dublin, Chester Beatty Library, Ms 63 (27).



Fig. 4 — Lailā and Majnūn surrounded by animals amongst which a couple of rhinoceroses can be seen. Mughal miniature painting, end of 17th century. Courtesy, National Museum, New Delhi.

4. 'King Solomon's court' ³⁷.
5. 'The lion's court' (Anwār-i-Suhail) ³⁸.
6. 'Noah's ark' ³⁹.
7. 'Plato charming the wild beasts with his music' (Khamseh) ⁴⁰.
8. 'Animal studies' ⁴¹.

In most of these paintings, the rhinoceros is shown as entering the picture 'from the border'.

- II. 1. Rhinoceros hunt ⁴².
2. A type of composition composed of several hunting scenes, of which at least one shows a rhinoceros hunt ⁴³.
- III. 1. A rhinoceros illustrating a particular passage of a certain text (mostly Qazwīnī) ⁴⁴.
2. Paintings of a rhinoceros which cannot be related to any text ('portrait') (fig. 5) ⁴⁵.

³⁷ Welch & Beach 1965: 59, no. 6 (= Welch & Welch 1982: 189, no. 63).

³⁸ Welch 1963: no. 10, dated 1596/97.

³⁹ Welch 1958: 57, fig. 2 (= Welch 1978: col. pl. 9 = Beach 1981: col. pl. p. 60, no. 13).

⁴⁰ Martin 1968: pl. 181; Norah Titley (Titley 1977: 143, no. 323(34)) mentions an illustration of the same subject by the same artist, but she does not say whether the painting is identical with the one reproduced by F.R. Martin.

⁴¹ See our fn. 22 for the exact references to a painting illustrating this subject.

⁴² 1) Khandalavala & Chandra 1965: col. pl. H — perhaps the most dramatic of all illustrations of this subject; 2) Montgomery & Lee 1960: col. pl. 36 (= Welch & Beach 1965: 72, no. 27 = Beach 1974: pl. LXVII, fig. 71 = Beach 1978: fig. 2, p. 22); 3) Beach 1974: fig. 73; 4) *Sotheby's* 7 December 1977, lot 43, p. 15.

⁴³ 1) *Sotheby's* 10 October 1977, lot 28, p. 20, colour; 2) Ettinghausen 1950: pl. 33; 3) *Sotheby's* 21 April 1980, lot 133, p. 88; 4) *Sotheby's* 13-14 April 1976, lot 25, p. 10.

⁴⁴ Qazwīnī: Ettinghausen 1950: pl. 14, bottom, dated 1789. Titley 1977 refers to several examples, viz. 234 (84), dated 1685/86; 235(128); 236(91); 237(71); 239(248), dated 1790; 240(129); 241(229); 244(66). Gharāyeb al-Kāynāt: *Hotel Drouot, Importants Manuscrits Persans...*, 10 March 1976, no. 42, dated 17-11-1753.

⁴⁵ 1) Miniature showing a rhinoceros in the collection of the Maharaja Sawai Man Singh II Museum, Jaipur, cf. Das 1983: 2. We could not see the original painting when visiting the Museum, but Shri Asok Das has kindly given us a black-and-white photograph of this miniature. A *nāgarī* inscription in the

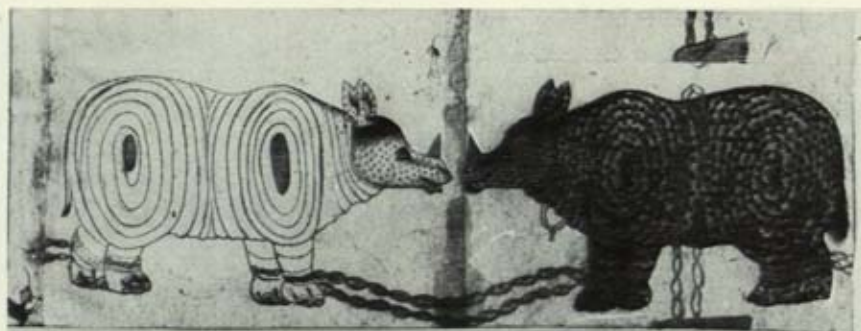


Fig. 5 — Drawing of two rhinoceroses facing each other, late 18th or early 19th century. Collection: Kumar Sangram Singh, Jaipur. Courtesy, Kumar Sangram Singh.

In the course of time, the rhinoceros has virtually been 'pushed aside', i.e. relegated to the extreme margins of the paintings⁴⁶, before it disappeared completely from the Indian miniatures. The majority of the miniature paintings showing a rhinoceros have in fact been executed in the first half of the 17th century. Among those later examples which cannot be placed into any of the three major groups mentioned above is the representation of a rhinoceros in a large-size map of the world which has been painted in East Rajasthan at the end of the 18th century: here, the rhinoceros does not appear on the Indian continent — but in Africa (Ethiopia)⁴⁷. The rendering of this rhinoceros is nevertheless unmistakably Indian as the artist made no attempt to paint an African rhinoceros (which he could have done easily by adding a second horn on the snout).

painting indicates that the rhinoceros came from Patna; 2) Soustiel 1973: no. 59, p. 59, colour; 3) Devkar 1957: pl. XXII 7; 4) our fig. 5, Collection of Kumar Sangram Singh of Nawalgarh. We are much indebted to Kumar S. Singh for being allowed to work in his collection. The reproduced area measures 6 × 15.2 cm (height precedes width). The miniature was painted in the late 18th century.

⁴⁶ Kheiri 1921: fig. 45, upper margin; furthermore *Nouveau Drouot, Salle no. 8, Collection Jean Pozzi*, 5 December 1970, no. 77, lower margin.

⁴⁷ Brisch 1979: no. 3, fig. 27. Since the rhinoceros is hardly recognizable in the reproduction (the map measures 260 × 261 cm) the reader is referred to a photograph showing the portion with the rhino: *Negativ Nr. Pl 2245, Abbildungssammlung Nr. 8504*. A colour slide of the entire map is available at the counter of the Museum.



Fig. 6 — Wall-painting showing a rhinoceros in Bijolia (Rajasthan), dated AD 1701.

The rhinoceros is not confined to miniature paintings. It appears in wall-paintings as well, and here it is perhaps even more prominent. The oldest dated wall-painting with a rhinoceros was executed in 1701 (fig. 6). It can be seen in the *Mardānā Mahal* of the palace at Bijolia (Rajasthan). The most impressive wall-paintings with rhinoceros hunts in great number and on a large scale are found in the *Chattar Mahal* within the palace of Kota (Rajasthan) dated 1701⁴⁸. Other rhinoceros representations may be seen in the wall-paintings of the *Jhālā kī Havelī*, *Baḍā Mahal*, and *Baḍe Devtājī kī Havelī* (all Kota), *Bāḍal Mahal*, Bundi, in the *Rang Śālā* of Samod (Rajasthan), in a wall-painting

⁴⁸ Beach 1974: pl. LXX, fig. 74. The inscription mentioning the date *samvat* 1758 has escaped Beach's attention, hence his dating 'ca. 1750'. Our researches on the wall-paintings of Bundi and Kota have been made possible through the Stiftung Volkswagenwerk to which we feel much indebted.



Fig. 7 — Detail of a sculptured marble panel in the royal palace at Kota (Rajasthan), 17th century.

at the 'Sisodia Rāñī kā Bagh' near Jaipur (Rajasthan), and at various other localities.

The representation of the rhinoceros after 1600 was in no way restricted to paintings. The animal occurs in Mughal animal carpets of the 17th century (Ettinghausen 1950: pl. 21) and in white marble reliefs like those of the Baḍā Mahal at Kota (fig. 7)⁴⁹. The rhinoceros of the Haravati area of Rajasthan (Bundi, Kota, Jhalawar) is still remembered in the words *khaṅgī* and *khaṅgā*, most probably derivatives from *khaḍga*⁵⁰. It must be noted that the rhinoceros does not appear in the wall-paintings of Toda Raisingh, or Indergarh, while it is shown frequently in the wall-paintings and painted wooden doors of Kota. This difference

⁴⁹ For the room in which this panel is situated, cf. Gaekwad 1980, ill. p. 75 (lower panel).

⁵⁰ *Ḍiṅgal-Koṣa*, ed. Bhāṭī n.d.: 250.

is of some importance since all these sites employed painters who were trained to work in the Bundikalam. It may prove that the artists painted only those animals which could actually be seen in the respective locality.

The European travellers in India had their own peculiar approach to the animal because they were influenced by European mythology⁵¹. William Finch (1608-11 in India) assumes that the rhinoceros horn had been used for 'bucklers and divers sorts of drinking cups'. Finch further remarks: 'There are of these hornes, all the Indians affirme, some rare of great price, no jewell comparable, some esteeming them the right unicornes horne' (ed. Foster 1968: 176). Tavernier (around 1665) mentions a rhinoceros hunt: 'As soon as it was killed they cut off the horn, which the king also presented to the ambassador' (trans. Ball 1889, II: 319-20). In spite of these observations, carved rhinoceros horns are seen in India but rarely⁵². Indian rhinoceros horn was exported to China, where the Chinese craftsmen produced some of the most outstanding examples of carved rhinoceros horns. But, as mentioned already, it never played such an important role in India as in Europe, where in one case 220 carved horns can be found in a single collection (Henchy n.d.: 15). Religious sects which made use of the rhinoceros horn had only limited influence⁵³. Tavernier describes a tamed rhinoceros: '...I saw a rhinoceros eating stalks of... millet, which a small boy of nine or ten years presented to him. On my approaching he gave me some stalks of millet, and immediately the rhinoceros came to me, opening his mouth four or five times; I placed some in it, and when he had eaten them he continued to open his mouth so that I might give him more' (transl. Ball 1889, I: 114-5). Bishop Heber also refers to tamed rhinoceroses: 'These (rhinoceroses) at Luck-

⁵¹ *Paulys Realencyclopädie der classischen Altertumswissenschaft*, new ed. W. Kroll, Stuttgart, 1935, pp. 1779-88.

⁵² Dr G. Bhattacharya (Berlin) has drawn our attention to a carved bowl made 'of rhinoceros forehead', as the caption on a postcard explains. This bowl is preserved in the State Chandradhari Museum of Darbhanga and has, besides other figures, carvings of the 'ten incarnations'. Apart from the postcard available from the Museum, this piece seems to be unpublished. For a Nepalesé bowl made of rhinoceros horn, see Glasenapp 1928: pl. 35.

⁵³ Briggs 1982 mentions on p. 7 ear-rings made of rhinoceros horn.

now are gentle and quiet animals, except that one (of five or six mentioned by Heber previously) of them has a feud with horses. They seem to propagate in captivity without reluctance, and I should conceive might be available to carry burthens as well as the elephant, except that, as their pace is still slower than his, their use could only be applicable to very great weights, and very gentle travelling. These have sometimes had howdahs on them, and were once fastened in a carriage, but only as an experiment which was never followed up. 'In passing through the city (= Baroda) I saw... a rhinoceros... which is so tame as to be ridden by a mohout, quite as patiently as an elephant' (Heber 1828, II: 58-9; III: 5). The observations of the two last-mentioned travellers are well illustrated in an Indian woodcut of 1861 showing a rhinoceros in the company of its groom. The rhino with its tiny little horn looks very tame (Bāmsīdhar 1861: frontispiece).

Travellers' records of this kind (and the woodcut of 1861) could not prevent the majority of European travellers, writers, and artists from drawing a frightening picture of the rhinoceros. An engraving after a drawing by William Daniell shows a rhinoceros with a head more akin to the African species: the horn is too long if compared to any representation made by an Indian artist (Counter 1835: engr. facing p. 4). The animal looks even more dangerous in a coloured illustration in a handbook on mammals, where it approaches the observer with a gaping mouth (Brehm 1891: col.pl. between pp. 99-100). Its skin, so we read, 'is so hard and thick as to be generally impervious to a musket ball' (Counter 1835: 5), though in most of the paintings with hunting scenes mentioned before it is pierced either by arrows or by spears. Finally, the rhinoceros was viewed as a weird and misshapen creature: 'The rhinoceros is of a savage disposition and seems to exist merely to gratify a voracious appetite' (Counter 1835: 6), 'An ugly, small-eyed, piggish, horny-looking-beast reared itself up out of the wallow in a sitting posture, only exposing its head and shoulders, and blinked at me stupidly for a few seconds in an undecided manner, as if debating in its own mind what manner of animal I was' (Pollock & Thom 1900: 173). 'They (= the rhinoceroses) are a poor show and of little use...' (Finn 1929: 187). Marco Polo observes: 'C'est une très villaine bête à voir, et dégoûtante' (Polo 1955, quoted by Soustiel 1973: 60). Another traveller describes a rhinoceros fight in Baroda: 'les deux villains

animaux sont mis en liberté et parcourent la place d'un trot disgracieux et en poussant des rugissements. Leur vue paraît être très mauvaise...' (Rousselet 1875, quoted by Soustiel 1973: 61)⁵⁴. That this traveller was no objective observer but gave rein to his imagination becomes clear from his woodcut where the rhinoceroses have two horns instead of one.

It would appear from what has been said that the place of the rhinoceros in ancient Indian civilization is not very clear. It did play an important part in the Indus valley civilization, but hardly in the society of the Indo-Aryans. Here, rhinoceros meat was eaten and it was also served to the manes. However, later on eating of rhinoceros meat was prohibited. The animal became the vehicle of god Agni in far off Cambodia but it was not included in the host of *vāhanas* etc. peculiar to Hindu mythology and iconography. The Jainas employed the animal in two *cihna*-series but this incorporation was hardly reflected in Jaina art. The most noteworthy record of the rhinoceros is found in the field of coinage: the Rhinoceros-Slayer Type of Kumāragupta. Again the animal occupied no important position in either traditional or ornate poetry. It was rediscovered as it were in a comparatively late period by Indian miniature painters. The European approach to the Indian rhinoceros was quite emotional. Since the Europeans considered the rhinoceros as useful and ugly, it becomes questionable whether the Indian approach to the animal was similar before the arrival of the Europeans in India in the 16th century. This would help to explain, why the rhinoceros could not attain the position of a *vāhana*: an ugly animal does hardly fit a god. It can nevertheless be hoped that here and there future research will throw additional light on the role played by the rhinoceros in ancient India.

⁵⁴ For the English edition, see Rousselet 1882: 106-7. For a reproduction of the wood-cut, see also Schlagintweit 1880: I, 229.

REFERENCES

- Akhtar, J.D., ed. (1972) *The Matsya Purāṇam*. Delhi.
- Ali, G.M. (1973) Animals in Life and Art of the Early Mughals. *The Times of India Annual 1973*, pp. 27-38.
- Altekar, A.S. (1954) *Catalogue of the Gupta Gold Coins in the Bayana Hoard*. Bombay.
- Altekar, A.S. (1957) *The Coinage of the Gupta Empire*. Corpus of Indian Coins, IV. Banaras.
- Alvi, M.A. & Rahman, A. (1968) *Jahangir, the Naturalist*. New Delhi.
- Atil, E. (1978) *The Brush of the Masters: Drawings from Iran and India*. Washington.
- Ball, V., transl. (1889) *Travels in India by Jean Baptiste Tavernier, Baron of Aubonne*. London.
- Baṃsidhar, P. (1861) *Pustaka Vidyānkura*. Jayanagara (= Jaipur), sambat 1918.
- Beach, M.C. (1974) *Rajput Painting at Bundi and Kota*. Ascona.
- Beach, M.C. (1978) *The Grand Mogul, Imperial Paintings in India 1600-1660*. Williamstown.
- Beach, M.C. (1981) *The Imperial Image...* Washington.
- Bhandarkar, D.R. (1969) *Aśoka*, 4th ed. Calcutta.
- Bhāṭī, N.S., ed. (n.d.) *Ḍiṃgal-Koṣa*. Jodhpur.
- Bhattacharya, B.C. (1974) *The Jaina Iconography*. Delhi-Varanasi-Patna.
- Bhattacharya, B.K. (1961) *Les Religions Brahmaniques dans l'Ancien Cambodge*. Paris.
- Binney, E. (1966) *Islamic Art from the Collection of Ewin Binney 3rd*. Washington.
- Binney, E. (1973) *Indian Miniature Painting from the Collection of Edwin Binney 3rd. Mughal and Deccani Schools ...* Portland.
- Bodleian Library (1953) *Mughal Miniatures of the Earlier Periods*. Bodleian Picture Book no. 9. Oxford.
- Boehtlingk, O. & Rieu, Ch., eds. & transl. (1847) *Hemacandra's Abhidhānacintāmani, ein systematisch angeordnetes synonymisches Lexicon*. St. Petersburg.
- Brehm, A. (1891) *Die Säugetiere*, III. Leipzig-Wien.
- Briggs, G.W. (1982) *Gorakhnāth and the Kānphata Yogis*. Reprint. Delhi.
- Brisch, K. et alii (1979) *Museum für Islamische Kunst Berlin (Catalogue)*. Berlin.
- Bühler, G., ed. (1879) *The Pāyālachchit Nāmamālā, a Prakrit Koṣa*. Göttingen.
- Bühler, G., transl. (1886) *The Laws of Manu*. Sacred Books of the East, XXV. Oxford.
- Bühler, G., ed. (1892) *Āpastambiyadharmasūtram: Aphorisms on the Sacred Laws of the Hindus*, pt. I. Bombay.
- Bühler, G., transl. (1969) *The Sacred Laws of the Āryas as Taught in the Schools of Āpastamba, Gautama...* Reprint. Delhi-Varanasi-Patna.
- Buitenen, J.A.B. van, transl. & ed. (1975) *The Mahābhārata ... 3: The Book of the Forest*. Chicago-London.
- Caillat, C. (1981) *La Cosmologie Jaina*. Paris.
- Caland, W., ed. (1904) *The Baudhāyana Śrauta Sūtra belonging to the Taittirya Saṃhitā*, vol. I. Calcutta.
- Caland, W., transl. (1953) *Sankhāyana Śrautasūtra being a major yājñika text of the Ṛgveda*. Reprint. Nagpur.

- Caland, W., ed. & transl. (1970) *Das Jaimintya-Brahmaṇa in Auswahl*. Reprint. Wiesbaden.
- Catalogue (1959) *5000 Jahre Kunst aus Indien / 5000 Years Art from India*. Essen.
- Catalogue (1978) *Inde, cinq mille ans d'art. Catalogue d'une exposition au Petit Palais*. Paris.
- Caunter, H. (1835) *The Oriental Annual, or Scenes in India*. London.
- Chalmers, L., ed. & transl. (1932) *Buddha's Teachings Being the Sutta-Nipāta or Discourse-Collection*. Harvard Oriental Series, 37. Cambridge, Mass.
- Chandra, P. (1970) *Stone Sculpture in the Allahabad Museum*. Poona.
- Chinmulgund, P.J. (1955) Another Rhinoceros Slayer Type Coin of Kumāragupta I. *JNSI XVII/II*, pp. 104-6.
- Clutton-Brock, J. (1965) *Excavations at Langhnaj: 1944-63, Part II: The Fauna*. Poona.
- Cole, S. (1976) *Early Maps of India*. New Delhi.
- Das, A.K. (1983) *Treasures of Indian Painting, Series Four: Mughal Bird and Animal Drawing*. Jaipur.
- Das Gupta, C.C. (1961) *Paharpur and Its Monuments*. Calcutta.
- Das Gupta, P.C. (1959) Early Terracottas from Chandraketugarh. *Lalit Kala* 6, pp. 45-52.
- Devkar, V.L. (1957) Some Recently Acquired Miniatures in the Baroda Museum. *Bulletin of the Museum and Picture Gallery, Baroda*, XII, pp. 19-24.
- Dhavalikar, M.K. (1978) Proto-Paśupati in Western India. *East and West* 28, pp. 203-11.
- Edgerton, F. (1953) *A Buddhist Hybrid Sanskrit Grammar and Dictionary*. New Haven.
- Egger, G., ed. (1974) *Hamza Nāma, vollständige Wiedergabe der bekannten Blätter ... Codices Selecti, Facsimile vol. LIII*. Graz.
- Ettinghausen, R. (1950) *The Unicorn*. Washington.
- Fausbøll, V., ed. (1891-1896) *The Jātaka together with Its Commentary ...*, vols. V-VI. London.
- Finn, F. (1929) *Sterndale's Mammalia of India. A New and Abridged Edition ...* Calcutta-Simla.
- Fischer, K. (n.d.) *La Civilisation de l'Indus. Histoire de l'Art Payot*, vol. 19. Paris.
- Foster, W., ed. (1968) *Early Travels in India 1583-1619*. Reprint. Delhi etc.
- Foucaux, Ph.E., transl. (1884) *Le Lalita Vistara*. Annales du Musée Guimet, 6. Paris.
- Francis, H.T., transl. (1957) *The Jātaka or Stories of the Buddha's Former Births*. Reprint. London.
- Frankfort, H. (1934) The Indus Civilization and the Near East. *Annual Bibliography of Indian Archaeology for the Year 1932*, pp. 1-12. Leyden.
- Gaekwad, F. (1980) *The Palaces of India*. London.
- Gelpke, R., transl. (1963) *Nizami — Leila und Madschnun*. Zürich. (An English transl. by R. Gelpke was published in 1966).
- Glasenapp, H. von (1928) *Heilige Stätten Indiens*. München.
- Glück, H. (1925) *Die indischen Miniaturen des Haemzæ-Romanes ...* Zürich-Wien-Leipzig.
- Gupta, A.S., ed. (1972) *The Karma Purāṇa (with English Translation)*. Varanasi.

- Gupta, P.L. (1965) *Patna Museum Catalogue of Antiquities*. Patna.
- Hackin, J. (1954) *Nouvelles recherches archéologiques à Begram*. MDAFA, XI. Paris.
- Haque, Z. (1975) Hunting: [sic] on the Terracotta Temples of Late Mediaeval Bengal. *Bangladesh Lalit Kalā* 1 2, pp. 121-6.
- Härtel, H. et alii (1971) *Indien und Südostasien*. Propyläen Kunstgeschichte, 16. Berlin.
- Heber, R. (1828) *Narrative of a Journey through the Upper Provinces... 1824-1825*, 3 vols. London.
- Heikamp, D. (1980) Seltene Nashörner in Martin Sperlich's Nashorngalerie und anderswo. *Schlösser Gärten Berlin Festschrift Martin Sperlich*, ed. D. Heikamp, pp. 301-25. Tübingen.
- Henchy, P. (n.d.) *The Chester Beatty Library and Gallery of Oriental Art*, Dublin. n.p.
- Hillebrandt, A., ed. (1888) *The Sāṅkhāyana Śrauta Sātra together with the Commentary of Varadattasuta Ānartīya*. Calcutta.
- Hosten, H., ed. & transl. (1912) Father A. Monserrati's Account of Akbar (26th Nov. 1582). *Journal and Proceedings of the Asiatic Society of Bengal* VIII 5-6, pp. 185-221.
- Hultsch, E., ed. (1922) *Das Baudhāyana-Dharmasātra*. Leipzig.
- Hultsch, E. (1925) *Inscriptions of Asoka*. Corpus Inscriptionum Indicarum, I. Oxford.
- Hutchins, F.G. (1980) *Young Krishna*. West Franklin.
- Jacob, G.A., ed. (1891) *Eleven Ātharvaṇa Upanishads with Dīpikās*. Bombay.
- Jolly, J., transl. (1977) *The Institutes of Vishnu*. Reprint. Delhi-Varanasi-Patna.
- Kala, S.C. (1961) *Indian Miniatures in the Allahabad Museum*. Allahabad.
- Khandalavala, K. & Chandra, M. (1965) *Miniatures and Sculptures from the Collection of the Late Sir Cowasji Jehangir, Bart.* Bombay.
- Khandalavala, K. & Chandra, M. (1969) *New Documents of Indian Painting — A Reappraisal*. Bombay.
- Khandalavala, K. & Chandra, M. (1974) *An Illustrated Āraṇyaka Parvan in the Asiatic Society of Bombay*. Bombay.
- Khandalawala, K. & Doshi, S. (1975) Miniature Paintings. *Jaina Art and Architecture*, ed. A. Ghosh, vol. III, pp. 393-427. New Delhi.
- Khandalavala, K. & Mittal, J. (1974) The Bhāgavata Ms. from Palam and Isarda — A Consideration in Style. *Lalit Kalā* 16, pp. 28-32.
- Kheiri, S. (1921) *Indische Miniaturen der islamischen Zeit*. Berlin.
- Kirfel, W. (1920) *Die Kosmographie der Inder*. Bonn-Leipzig (Repr., 1967).
- Kohl, J.F. (1954) Einige Bemerkungen zu den Tierlisten des jainistischen Kanons. *Asiatica*. Festschrift Friedrich Weller, pp. 365-76. Leipzig.
- Krishna, A. (1955-56) A Living Hereditary Artist of the Mughal School. *Lalit Kalā* 1-2, pp. 77-8.
- Kühnel, E. (1937) *Indische Miniaturen*. Berlin.
- Kühnel, E. & Ettinghausen, R. (1933) *Indische Miniaturen*. Bilderhefte der Islamischen Kunstabteilung, 1. Berlin.
- Langlois, M.A., transl. (1835) *Harivansa ou Histoire de la Famille de Hari...*, vol. II. Paris.
- Leumann, E. (1883) *Das Aupapātika Sātra*. Leipzig (Repr., 1966).

- Lohuizen-de Leeuw, J.E. van (1955) The Dikpālas in Ancient Java. *Bijdragen tot de Taal-, Land- en Volkenkunde* 111, pp. 356-87.
- Lüders, H. (1897-1901) *Die Sage von R̥ṣyaśr̥ṅga*. Gesellschaft der Wissenschaften zu Göttingen, Phil.-Hist. Klasse, 1897, pp. 87-135; 1901, pp. 28-56.
- Lüders, H. (1940) Eine indische Speiseregel. *Philologica Indica. Ausgewählte Kleine Schriften von Heinrich Lüders*, pp. 175-9. Göttingen.
- Lüders, H. (1973) Von Indischen Tieren. *Kleine Schriften*, ed. O. von Hinüber, pp. 517-23. Wiesbaden.
- Mackay, E.J.H. (1938a) *Further Excavations at Mohenjo-Daro*, 2 vols. New Delhi.
- Mackay, E. (1938b) *Die Induskultur — Ausgrabungen in Mohenjo-Daro und Harappa*. Leipzig.
- Mackay, E.J.H. (1943) *Chanhu-Daro Excavations 1935-36*. American Oriental Society Series, vol. 20. New Haven.
- Majumdar, R.C., ed. (1960) *The Age of Imperial Unity. The History and Culture of the Indian People*, II. Bombay.
- Majumdar, R.C. (1971) *The History of Bengal, I: Hindu Period*. Reprint. Lohanipur-Patna.
- Marshall, J. (1931) *Mohenjo-Daro and the Indus Civilization*, 3 vols. London.
- Marshall, J. & Foucher, A. (1940) *The Monuments of Sanchi*, 3 vols. Calcutta.
- Martin, F.R. (1968) *The Miniature Paintings and Painters of Persia, India ...* Reprint. London.
- Mayrhofer, M. (1935) *Kurzgefasstes etymologisches Wörterbuch des Altindischen / A Concise Etymological Sanskrit Dictionary*. Heidelberg.
- Mode, H. (1944) *Indische Frühkulturen und ihre Beziehungen zum Westen*. Basel.
- Mode, H. (1959) *Das Frühe Indien*. Stuttgart.
- Mode, H. (1961) *The Harappa Culture and the West*. Calcutta.
- Moens, J.L. (1948) De Eenhorn van Skanda. *Tijdschrift voor Indische Taal-, Land- en Volkenkunde* 82, pp. 347-61.
- Montgomery, G. & Lee, S.E. (1960) *Rajput Painting*. New York.
- Nagar, M.M. (1949) A Rhinoceros Slayer Type Coin of Kumāragupta I. *JNSI* XI/1, pp. 7-8.
- Nandargikar, G.R., transl. (1971) *The Raghuvamśa of Kālidāsa with the Commentary of Mallinātha*. Reprint. Delhi-Varanasi-Patna.
- Narayan Ram Acharya, ed. (1948) *The Raghuvamśa of Kālidāsa*, 11th ed. Bombay.
- Nawab, S.M. (1959) *The Oldest Rajasthani Paintings from Jain Binandars*. Ahmedabad.
- Pollok, C. & Thom, W.S. (1900) *Wild Sports of Burma and Assam*. London.
- Polo, M. (1955) *La Description du Monde*. Paris.
- Prakash, J. (1963) Observations on the so called Khadga-Trātā Coin-Type of Kumāragupta I. *JNSI* XXV/1, pp. 29-35.
- Ramachandran, T.N. (1934) *Tiruparuttikunram and Its Temples*. Bulletin of the Madras Government Museum, n.s., General Section, I 3. Madras.
- Rao, S.R. (1962) Further Excavations at Lothal. *Lalit Kalā* 11, pp. 14-30.
- Renou, L., transl. (1928) *Kālidāsa — Le Raghuvamśa*. Paris.
- Rousset, L. (1875) *L'Inde des Rajahs. Voyage dans l'Inde Centrale et dans les Présidences de Bombay et du Bengale*. Paris.
- Rousset, L. (1882) *India and Its Native Princes*. London.
- Rowland, B. (1953) *The Art and Architecture of India*. London.

- Roy, P.C., transl. (n.d.) *The Mahabharata of Krishna-Dwaipayana Vyasa*. Calcutta.
- Sahni, D.R. (1972) *Catalogue of the Museum of Archaeology at Sarnath*. Reprint. Delhi-Varanasi.
- Sāstri, B.N., ed. (1972) *Kālikāpurāṇam*. Varanasi.
- Schlagintweit, E. (1880) *Indien in Wort und Bild*, 2 vols. Leipzig.
- Schroeder, L. von, ed. (1881) *Maitrāyaṇī Samhitā*, vol. I. Leipzig.
- Schroeder, U. von (1981) *Indo-Tibetan Bronzes*. Hong Kong.
- Sharma, B.N. (1978) *Festivals of India*. New Delhi.
- Sharma, O.P. (1974) *Indian Miniature Painting*. Brussels.
- Shastri, M.N.D., transl. (1967) *Agni Purāṇam*, vol. II. Chowkhamba Sanskrit Studies, LIV. Varanasi.
- Shere, S.A. (1951) Stone Discs at Murtaziganj. *Journal of the Bihar Research Society* XXXVII 3-4, pp. 178-90.
- Sircar, D.C. (1966) Rhinoceros-Slayer Type Coins of Kumāragupta I. *JNSI* XXVIII/I, pp. 211-3.
- Sivaramamurti, C. (1977) *The Art of India*. New York.
- Smart, E.S. (1977) *Paintings from the Bāburnāma ...* Thesis. London.
- Sohoni, S.V. (1956) 'Khadga-Trātā' Coin-Type of Kumāragupta I. *JNSI* XVIII/II, pp. 178-86.
- Soustiel, J. (1973) *Miniatures Orientales de l'Inde ...* Paris.
- Stöner, H. (1925) Erklärung des Nashornreiters auf den Reliefs von Angkor-Vat. *Artibus Asiae* I, pp. 128-30.
- Strzygowski, J. & Glück, H. (1923) *Die indischen Miniaturen im Schlosse Schönbrunn*. Wien.
- Suleiman, H. (1970) *Miniatures of Babur-Nama*. Tashkent.
- Titley, N.M. (1977) *Miniatures from Persian Manuscripts. A Catalogue ...* London.
- Tyulayev, S. (1960) *Miniatures of Babur-Nama*. Moscow.
- Upadhyā, A.N. & Jain, H., eds. (1956) *Tiloyapaṇṇatti*, pt. I. Sholapur.
- Vaidya, P.L., ed. (1958) *Lalita-Vistara*. Darbhanga.
- Vats, M.S. (1940) *Excavations at Harappā, Being an Account of Archaeological Excavations at Harappā carried out between the Years 1920-21 and 1933-34*, 2 vols. Calcutta.
- Waldschmidt, E. et alii (1950) *Geschichte Asiens*. München.
- Weber, A., ed. (1972) *The Vājasaneyi-Samhitā in the Mādhyandina and the Kāṇva-Sākhā with the Commentary of Mahtdhara*. Repr.: Chowkhamba Sanskrit Series, 103. Varanasi.
- Welch, A. & Welch, S.C. (1982) *Arts of the Islamic Book*. Ithaca-London.
- Welch, S.C. (1958) Miniatures from a Manuscript of the Diwan-i-Hafiz. *Mārg* XI 3.
- Welch, S.C. (1963) *The Art of Mughal India*. New York.
- Welch, S.C. (1978) *Indische Buchmalerei unter den Grossmoguln, 16-19. Jahrhundert*. Die grossen Handschriften der Welt. München.
- Welch, S.C. & Beach, M.C. (1965) *Gods, Thrones and Peacocks*. New York.
- Wheeler, R.E.M. (1950) *Five Thousand Years of Pakistan*. London.
- Wheeler, M. (1959) *Early India and Pakistan to Ashoka*. New York.
- Wilson, H.H., transl. (1866) *The Vishṇu Purāṇa: A System of Hindu Mythology and Tradition*, vol. III. London.
- Zimmer, H. (1968) *The Art of Indian Asia*, 3rd ed. New York.