

# Horse-Trading and Horse-Carving: Horses on Angkorian Temple Reliefs

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*This paper is developed from the poster All the King's Horses: Where did Angkor get Horses? displayed at the EurASEAA Conference in Dublin September 2013.*

*Comments welcome.*

**Abstract:** The paper discusses images of horses carved on Angkorian temple reliefs. It identifies the horses as being of steppe type, with standard Chinese equipment, and concludes that most horses came from Yunnan, probably through Cham intermediaries. It also considers the possibility of some horse-trading with the Chola, based upon the images of Lvo cavalry at Angkor Wat.

The horse is of little importance in most of Southeast Asia today, but during the Angkorian period it was an integral part of Hindu and Buddhist temple iconography, usually associated with divine beings, royalty, and heroic tales. A Sanskrit treatise required artists to work from life: ‘when a figure of a horse is to be made, the model should always be in view and if it cannot be looked at the figure should not be made’ (*Sūkranīti* quoted in Biswas 1987: 36). If Southeast Asian artists saw horses in real life, where did these horses come from? We may be able to answer this by examining the animals’ body shapes (breed) and also the riding apparatus (‘tack’), because the artists included realistic local detail—as I have shown elsewhere in relation to ceramics (Cremin 2009 and online). The depictions discussed below tend to confirm the documentary record that horses came from Yunnan. However, a few of the horses depicted at Angkor Wat may have been obtained from India as royal gifts or trade. Examining the images may thus clarify some historical connections of the horse-trade.

## Horse Breeds and their Imagery

All Asian horses are ultimately derived from wild horses, tamed along the west Eurasian steppes at least 5,500 years ago (Warmuth et al. 2012: 8205). Steppe horses have a compact body and a noticeably rounded head-profile, often described as ‘ram-shaped’. They are small, usually no taller at the shoulder than about 120 cm. They can survive harsh weather and are valued for their stamina and strength: they can be ridden, used as pack-horses and as draught animals. The frozen bodies of many horses of this type have been found in the tombs of the Altai, 4th–3rd century BCE, for instance at Pazyryk barrows 1, 2 and 5 (Rudenko 1970: 119). They are realistically represented in terracotta as chariot-horses in Qin Shihuangdi’s tomb at X’ian, Shaanxi (PRC 2003: 52) and with riders in Dian bronzes of the Han period (Cremin 2010; Chiou-Peng 2004). This is the type of horse shown on temple reliefs at Borobodur in Java, in Cham carvings and at Banteay Srei in Angkor, as well as on most of the Angkor Wat pediments. Horses of very similar appearance are today highly valued on the Indonesian island of Sumba (Boro 1995; Hoekstra 1948: chapter 6; for modern breeds see ‘Indonesian ponies’ in Porter 2002: 183).

Systematic breeding from the basic steppe stock produced horses which were taller and faster. Druml (2009: 11–13) describes them as ‘plateau-thoroughbreds’, the ancestors of today’s Turkmen and Akhal-Teke. They are riding horses, slim, with an angular head, a long

neck, back and lower legs, and have characteristically short hair, sometimes with a metallic glint. There are good examples from the Altai, with one horse taller than 150 cm in Kurgan 11 at Berel', Kazakhstan (Francfort et al. 2000: 16). At Pazyryk, Rudenko (1970: 56, 58, 119) recorded several 'thoroughbreds', noting that the 'majority were chestnut and brown, sometimes with gold hues'. In life they had received special treatment, for their hooves did not exhibit the same traces of malnutrition as those of the 'herd horses' and they were retained though old or, in one case, lame. Rudenko's view was that these were elite horses as they were found only in the wealthier burials. Similar findings have been made in the more recent excavations at Arzhan 2 in Tuva (Parzinger et al. 2004).

Representations of such 'thoroughbreds' are well-known in Greco-Scythian art, as on the Chertomlyk silver-gilt amphora or the Solokha gold comb and silver-gilt bowl, all now in the Hermitage Museum (Piotrovsky et al. 1986: 128–129 and 158–159). In China they are seen in Han-period figurines, with a ram-shaped profile in gilt-bronze at Mao Ling, Shaanxi (Michaelson 1999: 44), but more frequently with a notably angular profile, for example in bronze at Leitai in Gansu and Xushui in Hebei, or in terracotta at Yangjiawan, Shaanxi (PRC 2003: 57, 65; Shaanxi History Museum n.d.: 62; Yang Peijun 1996: 88–89). A later and very striking depiction of this type can be seen on the murals from the late 6th-century tomb of Lou Rui at Taiyuan, Shanxi, now in the Shanxi Institute of Archaeology (Müller 2009: 188, plate 55).

The horses depicted in early Indian art are also of 'plateau-thoroughbred' type but they seem to be generally smaller (Van der Geer 2008: 239–246). They can be seen on the 2nd-century BCE Gondal bronze vase or the 2nd-century CE Amaravati stupa carvings, both now in the British Museum (Rapin 1996: 67–71; Dehejia 1997: 71–73). Horse-breeding became of considerable interest to Indian rulers and is discussed in Kautilya's *Arthashastra* (II.30) which says that the best horses come from the Punjab and further northwest (Biswas 1987: 35–36; Chakravarti 2009: 148–149; for Punjab in the later period see Digby 1971: 26–28). The breeds which today most resemble the Indian animals of the first millennium CE are mountain horses, especially those of Tibet, where expert knowledge of horses and horse-breeding dates from at least the 10th century CE (Maurer and Driesch 2006: 355; for modern breeds see 'Bhotia pony' and 'Tibetan ponies' in Porter 2002: 169, 204).

Druml (2009: 13–15) identifies a third breed which he calls 'representational', intended to display a ruler's power and strength. They are large, heavily-built with a short but broad back and a ram-shaped profile, thus closer in that respect to the steppe horse than to the plateau-thoroughbreds. They are prized for their distinctive markings or unusual colours, such as dappled or white. This is the type most commonly shown in Tang ceramics, paintings and carvings (e.g. Kubin 2009: plates 58–63). It is particularly well seen on the six limestone panels formerly around the mausoleum of the Taizong Emperor, Li Shimin, at Zhaoling; four of the panels are now in the Shaanxi Provincial Museum and the other two are in the University of Pennsylvania Museum. Each panel shows a horse which is named and praised in an accompanying poem, recalling his service to Li Shimin in various battles between 619 and 622 CE (PRC 2003: 92–93). Javanese, Cham and Khmer temple reliefs never show this type of horse. However the 12th-/13th-century statue of Balāha in the centre of Neak Pean, Angkor, has a ram-shaped profile, a thick neck and a broad back (Roveda 2005: 270, 272, fig. 6.168 and 409, fig. 10.502; Goloubew 1927, pl. XVIII a–b, available online).

## **Value and Meaning of Horses**

A strong bond between horse and rider is the stuff of legend: Alexander the Great founded a town in memory of his Bucephalos, killed at the battle of the Hydaspes in 326 BCE (Arrian, *Anabasis* 5b.19, in McCrindle 1896: 110, online). The horse Kanthaka died of grief when Siddharta sent him away (Biswas 1987: 32–33). There is no evidence that the Angkorian kings had any such attachment, probably because they rode elephants rather than horses. However, the wedding gift of a horse and saddle received in the 11th century by a high official from his bride, Me Sok, a granddaughter of Suryavarman I, indicates that horses were associated with the elite among the Khmer, as elsewhere (Ta Kam inscription K 245, line 9, Jenner online). Their value in that same century might be gauged from the Sdok Kak Thom inscription where a wealthy foundation was to be endowed with 1,000 cows, 200 elephants and 100 horses (K 235D, line 69, Jenner online). If these figures are realistic, rather than literary licence, one horse may have been worth two elephants or, more likely, this number was sufficient for the temple's requirements.

Images seem to be the only physical evidence for horses in Southeast Asia. Unlike central China, where horses were deposited in funerary contexts as early as the Shang period (Linduff 2006: 304), no burials of horses have been recorded in Southeast Asia (Dougald O'Reilly, pers.comm. 2011). Neither have any horse-trappings have been reported. While there was no great need for horses when elephants and buffalo were easily available, the Southeast Asian elites would have been aware of their existence from both Brahmanical and Buddhist literature (Biswas 1987: 26–35) and would have encountered them through Buddhism, which may justly be said to have spread on horseback (Neelis 2011; Chakravarti 2009: 150–151). The horse may thus at first have been valued less for its practical utility than for its religious associations.

The earliest representation of horses in the Khmer world is as a *Vājimukha*, horse-headed divinity or guardian (Jessup and Zephir 1997: 162, 178). There are two magnificent statues of this being who has a human body, slightly under life-size, and the head of a ram-headed horse, realistically observed. The smaller (135 cm), in early 7th-century Phnom Da style, was found near Kuk Trap village, Kandal, and is now in the National Museum, Phnom Penh. The taller (146 cm), in mid-10th-century Pre Rup style, comes from the former royal capital at Sambor Prei Kuk, Kampong Thom, and is now in the Musée Guimet, Paris. Both statues were found in central Cambodia in an area easily accessible from the Mekong. In that same area there is a cluster of early lintels, in Sambor Prei Kuk and Prei Khmeng styles, showing horses being ridden by the Aśvin twins, divine healers associated with the dawn (Cremin 2013 online). In my view, horses were introduced to the Khmer by traders travelling along the Mekong at around this time, i.e. during the 7th century.

### **Southeast Asian Imagery**

By the 9th century, horses were realistically depicted on temple reliefs at Borobodur in a Buddhist context (e.g. Frédéric and Nou 1995: 61 relief Ib114, 146–147 reliefs Ia65–6, 156 relief Ia56). They are of steppe type, quite unlike the ones depicted in India. Similar horses are shown on the Cham carvings from the Don Duong Vihara, dedicated in 875 and now in the Da Nang Museum (Guillon 2001: 93), but they are not seen at Angkor until the late 10th century — at the Brahmanical temples of Banteay Srei, completed in 967, and the mid-11th century Baphuon (Jacques and Freeman 2000: 214–215, 105). In each carving the horses are small, compact and ram-headed. There is a striking similarity between the horses at Banteay Srei and Borobodur, despite the difference in date, and this tends to confirm the idea of a common regional source for the animals.

In the 12th and 13th centuries there is more—and more varied—horse imagery at Angkor. At Angkor Wat the pediments swarm with heroic chariots and in the South Gallery riders direct the dead to heaven or hell (Roveda 2002: 39). Secular themes are shown for the first time in its Galerie des Princes, where leaders are shown on horseback, and there is even a body of cavalry, identified as ‘Lvo’ (Roveda 2002: 36). The buildings of Jayavarman VII and his successors show many secular images: mounted officers on the Bayon and polo players on the outer reliefs of the Terrace of the Elephants. Horse are less common on Buddhist temples but Banteay Kdei, built by Jayavarman VII, is said to have no less than three images of a ‘maddened horse’ (Roveda 2005: 410–411), an image which Petrochenko (2012: 70) connects with the story of Siddharta’s winning the hand of Yasodhara in a test of skills. On that same temple one of the defaced pediments seems to show a horse-headed worshipper, a motif marginally more common on Vishnu temples (Roveda 2005: 204). (**Fig. 1**)

### **How did Horses get to Southeast Asia?**

The nearest source to Southeast Asia for steppe horses was the Tibet–Yunnan region. The archaeology of Tibet is still too little known, but archaeology has exposed ancient contacts between Yunnan and the Bay of Bengal or the Indian Ocean, manifested by the hundreds of shells of money-cowrie (*Cypraea moneta*) which were buried in elaborate bronze containers, often topped with figurines of horses, in the Han-period tombs around Lake Dian (Cremin 2010: Figs 3–4). The cowries–horse trade may have been the equivalent of the later tea–horse trade.

In Marco Polo’s time cowries were still traded into Yunnan, or Carajan as he calls it (Bk 2.XLVIII), and horses were exported south (Bk 2.XLIX), though he does not connect the two items as reciprocal trade. These horses, identified by the Song as coming from the Yi people, were *mingma*, ‘excellent horses’ (Chin 2009: 215). They may have been traded to Bengal in the 14th century (Chakravarti 2009: 157 and nn. 48–49) and were still in the late 19th century described as ‘valuable ponies’ by Major Yule (Yule–Cordier 1903–1920, vol. 2: 82–83, n. 4 and 89, n. 4).

Moving horses is no small task: the horses for sale have to arrive in good condition, which means they have to be properly fed, watered and paddocked along the way. Each of the drovers, travelling on horseback and leading a packhorse with supplies, also needs to be fed, watered and housed. In practice there have to be minimally as many drovers as there are horses: in 1002 CE, for instance, 460 Yi horses travelling from Guizhou to Kaifeng were accompanied by 1600 persons, some of whom brought other merchandise (Chin 2009: 215). Such an enterprise was not worth undertaking unless sales were guaranteed—hence the crucial role of merchants—and a return cargo would be advantageous. Cowries, eminently portable and available only in tropical waters, would certainly be a powerful incentive to take horses south from the inland.

The route across the mountains to the Bay of Bengal was long and difficult, both physically and socially. Numerous negotiations would be necessary to take horses through the various tribal territories and horse-caravans undoubtedly relied on alliances nurtured over the centuries. The route was of great interest to the Chinese, intent both on trade and in protecting their borders (Yang Bin 2008: chapter 2), and was to become of even greater interest to the British when they considered building a railway to China (Davies 1909: vi–vii).

Regrettably, the early cowries–horse route is not yet well known archaeologically, though future work in Myanmar should remedy this. Moore (2010) discusses the connections with Yunnan and Wade (2009: plate 40) notes a horse figurine on a four-wheeled base from the

Samon River. Archaeology does not support a major route through central Thailand, where relatively few cowries have been found in burials, despite the great number of excavations (Higham and Thorasat 2012: 59, 100–101, 136). Neither are there any clear connections between Thailand and Yunnan, for the Dong Son drums from the Tham Ongbah cavern do not resemble those of Dian (Higham and Thorasat 2012: 176–177). There are few depictions of horses in Central Thailand: the 2nd or 3rd century CE Rajamangala ivory comb from Wat Chansen, Nakhon Sawan, now in the Bangkok National Museum, is presumed to be an import from the Amaravati area (Gosling 2004: 36–7; Piriya Krairiksh 2012: 42, 44). Curiously, however, the horses on this piece are not of the angular ‘Indian’ type, but of the rounded steppe or Yunnan type.

Steppe horses coming to Southeast Asia from Yunnan via Myanmar would have to travel part of the way by sea (Chakravarti 2009: 157–9; Rajan 2011). There is ample evidence for connections from at least southern India to the Malay Peninsula and Indonesia (Jacq Hergoualc’h 2002; Hall 2011; Manguin et al. 2011; Beaujard 2013: 82–84). Sea-transport of horses, admittedly in a mythical context, is depicted at Ajanta, in Cave 17:29,1(28) (Schlinghoff 2000). Interestingly, the Pallava port of Mamallapuram is framed north and south by two carvings of horses, one at the Tiger Cave at Saluvankuppam, 7 km to the north, the other on the southernmost of three rock-shrines south of the Shore Temple. (Figs 2–3)

The Cham are usually seen as the major traders in the early Angkorian period and are the most likely carriers around the Southeast Asian coasts. Yunnan horses could in theory have travelled by sea from India or Indonesia as far as Champa and from there been taken overland to Angkor and north across the Dangrek to Surin. Alternatively and more likely, the Cham could have brought horses directly from Yunnan down the Red River to Annam, using the much older routes evidenced by the spread of Dong Son drums.

The Cham may have taken horses directly to the Khorat Plateau, for there is an indication of Cham contacts in the 9th-/10th-century brick Phra That Phnom in Nakhon Ratchasima/Khorat: brick structures are said to be typically Cham and this one has a ‘flying horse’ vignette of Chinese inspiration, observed and discussed by Boisselier (1963: 195) before the building collapsed in 1975 (reconstruction and vignette shown in Piriya Krairiksh 2012: 123, fig. 1.132). The 10th-century *sema* pillar from Ban Hin Tang, Kalasin, now in Khong Kaen Museum (Piriya Krairiksh 2012: 340–341, fig. 2.354), shows a very different flying horse, in vernacular style, but its distinctly ram-headed profile suggests a Yunnan source and again points to a Champa–Khorat trade route.

Cham horse-trading with China through the Tongking Gulf was formalised in the Song period (Cooke et al. 2011: 14, 98–99), when the Gulf became ‘East Asia’s Mediterranean’ (Schottenhammer 2008). Records show that Cham trade with the Song extended over a long century between 959 and 1068 (Chin 2009: 213–216). This was a time of conflict between Cham and Dai Viet/Jaozhi (Wade 2011: 150–153), which must have affected the horse-trade and may have lessened supply. The rounded shape of most of the horses shown on Angkorian temples strongly suggests that the Cham were selling Yunnan/Yi horses to the Khmer, while keeping Song cavalry horses for themselves. We do not know what Angkorian kings gave in return, but alliances or non-aggression treaties may have been part of the deal.

## **Tack**

East Asian horse-riding equipment was standardised quite early on and is best seen on the Zhaoling panels mentioned above, which show a rigid saddle with stirrups. Stirrups had been developed somewhere in northern China by the 4th century CE (Müller 2009: 191–192;

Olsen 2006: 5) and a functional gilded pair, 26.8x17.2cm, found in a Koguryo tomb at Ji'an, Jilin, is now in the National Museum of Chinese History (NMCH 2002: 103). The importance of stirrups has been somewhat exaggerated: they enable the rider to sit with dignity, as at Borobudur, and are useful when riders have to twist their upper body, when firing arrows, for instance, or playing polo, as on the Dai An string-wall (Boisselier 1963: 195). But they do not seem to have been commonly used: the pedestal from Khuong My, very similar in style to the Dai An string-wall, shows a rider with neither stirrups nor saddle (Guillon 2001: 131–132) and none of the riders at Angkor Wat and the Bayon use stirrups. Neither do the polo players at the Terrace of Elephants (Jacques and Freeman 2000: 108).

Southeast Asian saddles are normally shown with a girth strap around the belly, a breast strap across the horse's front and a breeching, or crupper strap, across its rear. The breast strap may be ornamented or have rows of bells added to it—some horses today are said to be soothed by the rhythmic sounds. Breast ornaments are well shown in a frontal view of chariot horses in the Sun and Moon panel in the SW corner pavilion at Angkor Wat (Roveda 2002: 136, fig. 119; Roveda 2005: 186, fig. 4.6.74) and also on the five-headed horses from the inner wall of the Terrace of Elephants (Goloubew 1927: 231, plate XXI, available online). Time did not permit a study of the harnessing of chariots, but preliminary observations and the beautiful drawings by Michel Jacq-Hergoualc'h (2007: 42, figs 31–32) suggest that it was simple, even minimal.

Southeast Asian horse head-gear is very basic, consisting of a bridle to which reins are attached, following Tang usage. The bridle runs from behind the horse's ears down the cheeks to the mouth and there connects with a bit, if there is one, or simply with the reins. There may be cross-connections across the forehead—the headband—and across the nose—the noseband (Deloche 1990, pl. 1). There are even simpler forms, as at Borobudur Ia66, where there is a noseband connected to the reins, but no bridle. Bridles with nosebands are shown at Angkor Wat and the Bayon (*contra* Jacq-Hergoualc'h 2007: 55–56). In Cambodia and Champa horses wear an additional collar, sometimes with bells attached. This is commonly shown on Indian images (e.g. Sriraman 2011: 82) and it may be an Indian custom, but such ornaments are also known from the pre-Tang Sui period, for instance on a pottery figurine from Guizhishan, Hubei (NMCH 2002: 110). Their use in Southeast Asia is likely a form of display, designed to enhance a small and relatively unimpressive animal—particularly unimpressive in the company of parading elephants.

There is a curious innovation at Angkor Wat and the Bayon. Bridles often have a 'throatlatch', a strap which normally goes from the horizontal headband in a loop beneath the horse's neck (Deloche 1990, plate 1). But in many of the reliefs there is no headband; instead the throatlatch goes up the cheek, joining the bridle at about the level of the horse's eye, then up around the front of the ears to the top of the skull (Jacq-Hergoualc'h 2007: 55, fig. 40). A large X-shape is thus created along the horse's profile. This may be realistic, or it may be a stylisation by the artists. If realistic, it is not clear what purpose this arrangement served, though again it may be a question of making the horse look more impressive: if the various straps were coloured this could make a unusual show. (Figs 4–7)

### **Horses and Foreign Policy**

Angkorian rulers, with no merchant fleet of their own, had little choice in the supply of horses and were effectively dependent upon the Cham. An alternative would have been to obtain better (larger) horses from India directly through Thailand, by-passing the Cham. That this was attempted is suggested by the Lvo cavalry horses in Angkor Wat's Galerie des

Princes' Historic Procession—assuming that the identification of Lvo with Lopburi is in fact correct (Piriya Krairiksh 2012: 131, 138–139). The animals are less compact, they have straighter profiles and distinctively pointed ears—not unlike today's Marwari (Van derGeer 2008: fig. 296). The Marwari is modern and I am not suggesting that it is related to these animals, but pointed ears may have been an Indian trait and, as we have seen, Indian rulers had an informed interest in horse-breeding (Madhavan 2005: 87–90). **(Fig 4)**

The Khmer ruler most likely to borrow from India would have been Suryavarman I (r. 1011–1050), a man of considerable vision and ambition. He extended the boundaries of empire as far west as Lopburi—where he showed respect for Buddhist monks, according to the San Sung inscription (Piriya Krairiksh 2012: 137, 343; text discussed in Bhattacharya 1997: 46). His wars of conquest took at least a decade. Thus he is the most likely ruler to be the 'king of Kamboja, aspiring for his friendship and in order to save his own fortunes' who sent to the Chola king Rajendra I in 1020 'a triumphant chariot with which he had conquered the armies of the enemy kings in the battles' (Karandai copper plate inscription, Karashima and Subbarayalu 2009: 278). The chariot must have seen only minimal action if it was fit to be sent to another ruler, but the symbolism was of significance, with its allusions to epic tales, especially of the charioteer Krishna as defender of the just. This same 'king of Kamboja' also sent a stone, which will be discussed below.

An alliance with the ruler of central Thailand (whoever he may have been) would have been of interest to Rajendra I, who was himself engaged in empire-building on a large scale. The Chola already had commercial contacts with southern Thailand (Guy 2011: 255) and it would not have been difficult to send horses to Lopburi. A possible indication of Chola trade is the curious representation of a long-necked horse, possibly an Arabian thoroughbred, towering over a young camel on a lintel at the late 11th-century Prasat Ban Phluang, Surin (Roveda 2005: 220, fig. 5.149; Piriya Krairiksh 2012: 199). Chola merchants are known to have dealt in both horses and camels (Karashima 2009: table 8.2) and such unusual animals might have seemed appropriate items for sale or gift to a Khmer ruler.

If there was a horse-trade with the Lvo in the 11th century, it made little impact on temple carvings, apart from Ban Phluang: the horses on the pediments and lintels at Phimai and other late 11th-century/early 12th-century temples in Thailand show few horses and these seem to be of the same compact, rounded type as on the Baphuon. The reliefs are worn and it is hard to make out the precise shapes of the horses' heads, but they too seem to be rounded, not angular (e.g. Roveda 2005: 92, fig. 4.2.76; Piriya Krairiksh 2012: 314, figs 2.297–298, 316, fig. 2.300). At Phnom Rung, however, the horses seem slightly closer to the Lvo type, as might be expected given the temple's mid-12th century date (e.g. Piriya Krairiksh 2012: 228, figs 2.170 and 2.172; Gosling 2004: 139; Pisit Charoenwongsa et al. 2000: 124).

The source of the Lvo-type horses is therefore unclear: they may have been locally bred in Central Thailand from Indian stock introduced by Suryavarman I, as hypothesised above, or by the Lvo acting independently. In 1115 they sent an embassy to China (Piriya Krairiksh 2012: 138) but there is no reason to suppose this was their only diplomatic initiative. In my view, it is not a coincidence that it was precisely at this time that the Chola king Kulottunga I installed in a temple the stone that the 'king of Kamboja' had sent to Rajendra I almost a century earlier. He had it 'fixed in the upper front row of the stone wall of the front hall' of the temple (Chidambaram inscription c. 1114, Karashima and Subbarayalu 2009: 283). This action may have been prompted by a reminder of a former alliance, however tenuous. Who the reminder came from depends on how 'Kamboja' is understood. If it is Cambodia (Hall

1980: 174) then it would be from Suryavarman II (r. 1113–1150), then at the start of his career. If, as Michael Vickery has contended (1977: 372, 376), Kamboja was in Central Thailand, then the remainder could be from the Lvo.

Whatever the sequence of events, by the time Suryavarman II was sufficiently secure to build Angkor Wat the Lvo were integrated into the Khmer empire and had good horses, adequately trained in cavalry techniques. As Jacq-Hergoualc'h points out, the Khmer did not really use cavalry but used horsemen to maintain discipline, 'to acts as scouts ahead of the army, and to ensure the transmission of orders' (2007: 119). It is outside the scope of this paper to examine why the Lvo had a cavalry when the Khmer did not, but if the Lvo had horses of Indian origin, as suggested by the imagery, they could have learnt cavalry techniques from their suppliers.

During the whole of the 12th century Khmer rulers had complicated alliances and conflicts with the Cham (Schweyer 2007; Vickery 2011: 394–404), some of which may have been motivated by a desire to secure the supply of horses. Jayavarman VII (r. 1182–c.1218) may even have been in Champa in the 1170s when the Cham were refused horses by the Song and were forced to turn to Hainan for supplies (Ptak 2009: 221–222). He must have found a reliable source, for Yunnan-type horses are shown in several secular contexts on his Bayon. He may have made some sort of deal with Chinese merchants (Cremin 2009: 83) and the Bayon has telling images of horsemen dressed in Chinese garb leading both Chinese and Khmer soldiers (Figs 6–7). Cambodian horses continued to be of the small steppe type, as noted by both Zhao Rugua, writing in the 1220s (quoted in Wade 2009: 172) and Zhou Daguan, writing in the 1290s (Chapter 24, Smithies 2001: 69).

## **Conclusion**

Horse-trading leads to unpredictable encounters, because the horses have human attendants, grooms, drovers, charioteers and riders. With people come cultural behaviour, knowledge and belief systems. The need for horses forced the Chinese into contact with their barbarian neighbours, who sometimes became their rulers, while in southern Asia the horse-trade brought together Arab sailors and Indian merchant guilds in more amicable alliances, with lasting cultural consequences, including the spread of Islam. The impact on the Khmer was slighter, but still important, for they too were forced to deal with their neighbours, the Cham and, beyond them, the Dai Viet.

Angkorian temple reliefs show horses of Yunnan type but not of Indian type, with the significant exception of the Lvo cavalry. Horses may originally have come from Yunnan via Myanmar and Bengal, then later via Annam, the horses being in each case shipped to Southeast Asia by the Cham. The lack of interest in specific horses and in easily available equipment such as stirrups, suggests that horses were little used in Cambodia and that the imagery, though realistic in detail, was largely symbolic. Examining the physical aspects has helped to understand some historical connections and opens up some thoughts about the relations of the Khmer empire with the people on its borders, be they Cham, Dai Viet, or Lvo. The path to further research lies not only on the edges of the empire, but further again, northwest to the Burma Road and north to the Tongking Gulf.

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## References

- Beaujard, Philippe 2013. *Les mondes de l'Océan Indien. Tome II*, Paris: Armand Colin.
- Bhattacharya, Kamelashwar 1997. The religions of ancient Cambodia. Pp. 34–52 in Helen I Jessup and Thierry Zephir eds, *Sculpture of Angkor and Ancient Cambodia: Millennium of Glory*,. New York: Thames & Hudson.
- Biswas, T.K. 1987. *Horse in early Indian art*. New Delhi: Munshiram Manoharlal.
- Boisselier, Jean 1963 *La statuaire du Champa: Recherches sur les cultes et l'iconographie*, Paris: EFEO.
- Boro, P.L. 1995. *Pasola, permainan ketangkasan berkuda lelaki Sumba, Nusa Tenggara Timur, Indonesia: Sumba tribe horse riding contest*. Jakarta: Obor.
- Chakravarti, Ranabir 2009. Equestrian demand and dealers: The early Indian scenario (up to c. 1300), pp. 145–159 in Bert G. Fagner, Ralph Kauz, Roderich Ptak and Angela Schottenhammer eds *Pferde in Asien: Geschichte, Handel und Kultur. Horses in Asia: History, trade and culture*. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Chin, James 2009. Negotiation and bartering on the frontier: Horse trade in Song China, pp. 203–218 in Bert G. Fagner, Ralph Kauz, Roderich Ptak and Angela Schottenhammer eds *Pferde in Asien: Geschichte, Handel und Kultur. Horses in Asia: History, trade and culture*. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Chiou-Peng, Tzehuey 2004. Horsemen in the Dian Culture of Yunnan, pp. 289–313 in Kathryn M. Linduff and Yan Sun eds, *Gender and Chinese archaeology*. Walnut Ck, CA: Altamira,
- Cooke, Nola, Li Tana and James A. Anderson eds 2011. *The Tongking Gulf through history*. Philadelphia : University of Pennsylvania Press.
- Cremin, Aedeon 2009. Image and Reality: Ceramics on Angkorian temple reliefs in Cambodia. *Australasian Historical Archaeology* 27: 79–86. Shortened version online at [www.academia.edu](http://www.academia.edu) [uploaded June 2013]
- 2010. Seeing Dian through Barbarian Eyes. *IPPA Bulletin* 30: 114–21. Online at [www.journals.lib.washington.edu/Index.php/BIPPA/issue/view/681](http://www.journals.lib.washington.edu/Index.php/BIPPA/issue/view/681) [accessed 6 December 2012].
- 2013. Aśvin horse-riders on the S lintel at Prasat Kuk Roka, Kampong Thom, Cambodia. Online at [www.academia.edu](http://www.academia.edu) [uploaded September 2013]
- Davies, Henry Rodolph 1909. *Yün-Nan: The link between India and the Yangtze*, Cambridge: University Press.
- Dehejia, Vidya 1997. *Indian art*. London: Phaidon.
- Deloche, Jean 1990. *Horses and riding equipment in Indian art*. Madras: Indian Heritage Trust
- Digby, Simon 1971. *War-horse and elephant in the Dehli Sultanate*, Oxford: Orient Monographs.
- Druml, Thomas 2009. Functional traits in early horse breeds of Mongolia, India and China from the perspective of animal breeding, pp. 9–16 in Bert G. Fagner, Ralph Kauz, Roderich Ptak and Angela Schottenhammer eds. *Pferde in Asien: Geschichte, Handel und Kultur. Horses in Asia: History, trade and culture*. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.



- Horses and humans: The evolution of human-equine relationships*. Oxford: BAR International Series 1560.
- Madhavan, Chithra 2005. *History and culture of Tamil Nadu as gleaned from the Sanskrit inscriptions. Volume 1 (Up to c.AD 1310)*. New Delhi: D.K.Printworld.
- Manguin, Pierre-Yves, A. Mani and Geoff Wade eds 2011. *Early interactions between South and South East Asia: Reflections on cross-cultural exchange*, Singapore: ISEAS.
- Maurer, Petra and Angela von den Driesch, 2006. Tibetan ‘Horse Books’ from the High Himalayas, pp. 355–61 in Sandra L. Olsen, Susan Grant, Alice M Choyke and László Bartosiewicz eds *Horses and humans: The evolution of human-equine relationships*. Oxford: BAR International Series 1560.
- McCrindle, J.W. trans. and ed. 1896. *The invasion of India by Alexander the Great*, 2<sup>nd</sup> ed. Westminster: A. Constable & Co. Online at [www.archive.org](http://www.archive.org). [accessed 8 Dec. 2012].
- Michaelson, Carol 1999. The thousand-*li* horses. *Orientalia* 30.9 (Nov.): 40–48.
- Moore, Elizabeth 2010. Myanmar bronzes and the Dian cultures of Yunnan. *IPPA Bulletin* 30: 122–32. Online at [www.journals.lib.washington.edu/Index.php/BIPPA/issue/view/681](http://www.journals.lib.washington.edu/Index.php/BIPPA/issue/view/681) [accessed 6 December 2012].
- Müller, Shing 2009. Horses of the Xianbei, 300–600 AD: A brief survey, pp. 181–194 in Bert Fagner, Ralph Kauz, Roderich Ptak and Angela Schottenhammer eds *Pferde in Asien: Geschichte, Handel und Kultur. Horses in Asia: History, trade and culture*. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Neelis, Jason 2011 *Early Buddhist transmission and trade networks: Mobility and exchange within and beyond the northwestern borderlands of South Asia*. Leiden : Brill.
- NMCH 2002. *Exhibition of Chinese history*. Beijing: National Museum of Chinese History.
- Olsen, Sandra L., Susan Grant, Alice M Choyke and László Bartosiewicz eds 2006. *Horses and humans: The evolution of human-equine relationships*. Oxford: BAR International Series 1560.
- Parzinger, Hermann, Anatoli Nagler and Konstantin Chugunov 2004. Arzhan 2: La tombe d'un prince scythe en Sibérie du Sud. *Arts Asiatiques* 59: 5–29. Online at [www.persee.fr](http://www.persee.fr), with most images [accessed 16 September 2013].
- Petrochenko, Michel 2012. *Focusing on the Angkor temples: The guidebook*, 2<sup>nd</sup> ed. Cambodia: The author.
- Piotrovsky, Boris, Ludmila Galanina and Nonna Grach 1986. *Scythian art*. Leningrad: Aurora and Oxford: Phaidon.
- Piriya Krairiksh 2012. *The roots of Thai art*. Bangkok: River.
- Pisit Charoenwongsa, Janya Manavid, Amara Srisuchat and Ajchara Khnagsirikit. 2000. *Prasat Phnom Rung*. Bangkok: Fine Arts Department.
- Porter, Valerie ed. 2002. *Mason's World Dictionary of livestock breeds, types and varieties*, 5<sup>th</sup> ed. Oxford: CABI.
- PRC 2003. *The history and civilization of China*. Beijing: The People's Republic of China.
- Ptak, Roderich 2009. Hainan and the trade in horses (Song to early Ming), pp. 219–225 in Bert G. Fagner, Ralph Kauz, Roderich Ptak and Angela Schottenhammer eds *Pferde in Asien: Geschichte, Handel und Kultur. Horses in Asia: History, trade and culture*. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- Rajan, K. 2011. Emergence of early historic trade in peninsular India, pp. 177–196 in Manguin, Pierre-Yves, A. Mani and Geoffrey Wade eds 2011. *Early interactions between South and South East Asia: Reflections on cross-cultural exchange*, Singapore: ISEAS.
- Rapin, Claude 1996. *Indian art from Afghanistan: The legend of Shakuntala and the Indian treasure of Eucratides at Al Khanum*, New Delhi: Manohar.

- Roveda, Vittorio 2002. *Sacred Angkor*. Bangkok: River.
- 2005. *Images of the gods*. Bangkok: River.
- Rudenko, Sergei I. 1970. *Frozen tombs of Siberia: The Pazyryk burials of Iron Age horsemen* (trans. and ed. M.W. Thompson). London: J.M. Dent.
- Schlinghoff, Dieter 2000. *Ajanta* vol. II, Wiesbaden: Harrassowitz.
- Schottenhammer, Angela ed. 2008. *The East Asian 'Mediterranean': Maritime crossroads of culture, commerce and human migration*. Wiesbaden: Harrassowitz.
- Schweyer, Anne-Valérie 2007. The confrontation of Khmers and Chams, pp. 50–71 in Joyce Clark ed. *Bayon: New perspectives*. Bangkok: River.
- Shaanxi History Museum. n.d. [2004] *Shaanxi History Museum. Special edition*. Shaanxi Tourism Publishing House.
- Smithies, Michael 2001. *The Customs of Cambodia by Zhou Daguan (Chou Ta-kuan)*. Bangkok: Siam Society.
- Sriraman, P.S. 2011. *Chola murals: Documentation and study of the Chola murals of Brihadisvara temple, Thanjavur*. New Delhi: Archaeological Survey of India.
- Trần Ky Phuong and Bruce M Lockhart eds 2011. *The Cham of Vietnam*. Singapore: NUS.
- Van der Geer, Alexandra 2008. *Animals in stone: Indian mammals sculptured through time*. Leiden: Brill.
- Vickery, Michael 1977. *Cambodia after Angkor: The chronicular evidence for the fourteenth to sixteenth centuries*. Ann Arbor, Mich.: University Microfilms International.
- 2005. *Champa revised*. National University of Singapore Working Paper Series 37, online at [www.ari.nus.edu.sg](http://www.ari.nus.edu.sg) [accessed 16 September 2013].
- 2011. *Champa revised*, pp. 363–420 in Trần Ky Phuong and Bruce M Lockhart eds *The Cham of Vietnam*. Singapore: NUS
- Wade, Geoff 2005. *Champa in the Song hui-yao: A draft translation*, National University of Singapore Working Paper Series 53, online at [www.ari.nus.edu.sg](http://www.ari.nus.edu.sg) [accessed 16 June 2012].
- 2009. The horse in Southeast Asia prior to 1500 CE: Some vignettes, pp. 161–176 in Fragner, Bert G, Ralph Kauz, Roderich Ptak and Angela Schottenhammer eds *Pferde in Asien: Geschichte, Handel und Kultur. Horses in Asia: History, trade and culture*. Vienna: Verlag der Österreichischen Akademie der Wissenschaften.
- 2011. The 'Account of Champa' in the *Song Huyiao Jigao*. pp. 138–67 in Trần Ky Phuong and Bruce M Lockhart eds *The Cham of Vietnam*. Singapore: NUS
- Warmuth, V, Eriksson, A, Bower, M.A., Barker, G., Barrett, E., Hanks, B.K., Shicheng Li, Lomitashvili, D., Ochir-Goryaeva, M., Sizonov, V. and Manica, A. 2012. Reconstructing the origin and spread of the horse domestication in the Eurasian steppe. *Proceedings of the National Academy of Sciences of the USA* 109.21: 8202–06. Online at [www.pnas.org/content/early/2012/05/02/1111122109.full.pdf+html](http://www.pnas.org/content/early/2012/05/02/1111122109.full.pdf+html) [accessed 12 December 2012].
- Yang Bin 2008. *Between winds and clouds*. Columbia University Press e-publication. Online at [www.gutenberg-e.org/yang](http://www.gutenberg-e.org/yang) [accessed 8 December 2012].
- Yang Peijun 1996. *The Shaanxi History Museum: Appreciation of the museum collection*. Shaanxi: People's Education Publishing House.
- Yule, Henry and Henri Cordier trans. and eds 1903–1920. *The Book of Ser Marco Polo*, London: John Murray. Online at [www.gutenberg.org/catalog/world/readfile?fk\\_files=1484715](http://www.gutenberg.org/catalog/world/readfile?fk_files=1484715) [accessed 8 December 2012].



**Figure 1.** Defaced pediment at Banteay Kdei, with horse-headed worshipper. Photo courtesy and copyright Hang Borey 2013



**Figure 2** Mamallapuram, Tamil Nadu. Horse carved on southernmost rock shrine, south of Shore Temple, Photo courtesy and copyright Terry Lustig 2011.



**Figure 3.** Savulakuppam, Tamil Nadu .Horse carved on exterior of 'Tiger Cave'. Photo courtesy and copyright Terry Lustig 2011.



**Figure 4.** Angkor Wat. Galerie des Princes: Lvo cavalry. Photo courtesy and copyright Claudia Marchesi 2010.



**Figure 5.** Bayon. Outer gallery: Khmer horseman and foot soldiers. Photo courtesy and copyright Martin Polkinghorne 2011



**Figure 6.** Bayon, Outer Gallery. Chinese horseman and Chinese soldiers. Photo courtesy and copyright Wayne Johnson 2013



**Figure 7.** Bayon Outer Gallery. Chinese horseman and Khmer soldiers. Photo courtesy and copyright Wayne Johnson 2013