Der Indische Ozean, Südostasien und die maritime Welt
The Indian Ocean, Southeast Asia, and the Maritime World

On Horses and Chariots in Ancient Indian and Iranian Personal Names

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1. Ever since its very early years, historical and comparative linguistics has been concerned with the question of possible 'synergetic effects' between archaeological research and linguistic reconstruction. The nineteenth-century positivism tried hard to maintain the belief that the combination of 'Sprachwissenschaft' and 'Ur-Geschichte' may help us reconstruct not only an 'Ur-Sprache' but also an 'Ur-Heimat',[2] not only a 'proto-language' but also the 'proto-homeland' of Indo-Europeans. And the stylization e.g. of Heinrich Schliemann as the one who, just by reading the poems of Homer, was able to discover two of the most important archaeological sites of Antiquity, Troy and Mycenae, has been pouring fuel into the fire of such ambitions up to present day. But to which extent is it legitimate to try to see the *realia* behind the *nomina*, and is it really possible to find the things behind the concepts on the material of ancient poetical texts?

1.1. In the evolution of Indo-Iranian philology, we have been seeing surprisingly many indications that make it possible to enlarge our knowledge by means of an investigation policy "of little steps" based on a complex method of matching intrinsic evidence of Aryan literary texts about the surrounding reality of their authors against external data of archaeology or ethnography. So, a series of works published after the appearance of the multi-volumed *Grundriß der Indo-Arischen Philologie und Altertumskunde* and *Grundriß der iranischen Philologie* – like the ones of the Vedic house by Louis RENOU (1939) or of sacrificial utensils in Veda by RAGHU VIRA (1934) – and especially publications appearing in the last four decades of the twentieth century, show clearly how far the analysis of Aryan ritual texts could bring us in this regard. To the last group of works, one should count the analysis of testimonies about ships and boats by Konrad KLAUS (1989), the account of the rôle of rice and barley in the Vedic ritual by Shingo EINOO (1988), as well as team enterprises like the one of the University of California at Berkeley about the Vedic fire altar (STAAL 1983: vols. 1–2), based on the analysis of ritual sūtras and of terrain research into the Nambudiri sect in Kerala. We have to emphasize, above all, a series of works written by Wilhelm RAU between the late fifties and early nineties about state and society in Ancient India (RAU 1957), as well as about particular technological and economic areas in Vedic India such as pottery and ceramics (RAU 1972), (production of) metal and metal tools (1974), or various plaiting techniques (RAU 1971); on the Old Indian town cf. SCHLINGLOFF 1969. However, we can also see how easily we can touch the limits of material knowledge based on a very restricted, genre-specific tradition[3] – and how the "little steps" sometimes turn out to be smaller than we would like them to be:[4] It was the same RAU who, in 1975, gave a lecture at the Freiburg Congress of the German Oriental Society under the somewhat provocative title '*Ist vedische Archäologie möglich*?' (published as RAU 1977) – showing how, in spite of doubtless achievements, many of the crucial issues of socio-

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[2]   For a bibliography up to 2000 regarding the points of intersection between linguistics and "Altertumswissenschaft" *sensu lato*, see RAULWING 2000: 141–206 and SCHMITT 2000b: 403–404 (with an analysis from linguistic perspective on pp. 395–399, "§ 4: Herkunftsgebiet (sog. Urheimat) der I[n]d[o]g[ermanen]., Ausgliederung der i[n]d[o]g[ermanischen]. Sprachen"), cf. also the literature in HÄUSLER 2000: 407–408 (archaeological aspects) and see ZIMMER 2002 and 2003, with surveys of publications which appeared in the second half of the 20th century with relevance to (Proto-)Indo-European (= [P]IE) material and spiritual culture.

[3]   With regard to constituents and routines of Indian and Iranian ritual culture, cf. terminological dictionaries like RENOU 1954 and MYLIUS 1995 (concerning the Veda) as well as the presentation, by KOTWAL – BOYD 1991, of Avestan liturgy in its development up to the present day.

[4]   One only has to think of the manifold ambitions to project the data of "Pre-Indo-Aryan" cultures like Harappa on the background of extant Vedic texts.

economic history, of "linguistic palaeontology"[5] or of the history of technology still remain open. This general question is valid also for the specific situation of Indo-Iranian chariots, wagons, carts, and horses, and its answer depends to a large extent on the philological and hermeneutic assessment of literary monuments.

1.2. I have been invited by the convenors of our conference to give an account of the oldest personal names[6] of Veda and Avesta[7] that contain words of 'horse' and 'chariot' – in the sense of the main thematic field of the symposium – and, if possible, to focus on some specifically economic implications of these linguistic data about the role of horses in ancient Indian and Iranian traditions. It goes without saying that these two requests are only partially compatible with one another: The first task, to show the traces of Old Indian and Old Iranian words in the onomastic systems of both language groups, has a well-defined scope and clear constraints, while the second one, to find immediate economic implications out of this lexical material, depends on the general question of how far it is possible to evaluate linguistic data for the purposes of exploring social and economic history in a more than cursory[8] way. In the case of the oldest Indo-Iranian texts, such possibilities remain, as common sense could easily realize, rather limited. Indeed, the poetic and ritual character of the Veda and Avesta, our main and earliest sources of the two sister-languages, enables the researchers only to interpretations that have to remain modest and well-differentiated: the most ancient monuments of religious, hymnic poetry, like the Ṛgveda-Saṃhitā (RV) and the hymns of Avesta, operate with such terms mostly within a cultic, religious framework. As a tendency, whenever they speak of objects of (surrounding) 'material culture', the poets presuppose that the audience has already knowledge of their utilitarian aspects, and include the *realia* mostly on a very abstract, often only metaphorical[9] level of meaning, on which the connections to human reality are often of a vaguely-associative nature. Thus, "deciphering" such messages frequently becomes to an equality of more than one variables, in which not only the profound religious sense can escape to exoteric recipients but also the real value of the objects of similes or metaphors could largely remain questionable for modern readers. And it is well-known that even in the subsequent periods, in monuments of exegetical literature like the Vedic Brāhmaṇas as well as the Āraṇyakas and Upaniṣads, the interpretations of these poetical texts are, to a large extent, of mystic,

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[5] As a part of a general "Altertumskunde", as defined in (German) Classical Philology and applied in 19th century Indian studies e.g. in the pioneer monograph by Lᴀꜱꜱᴇɴ 1867. On the concept of 'linguistic palaeontology' concerning (Proto-)Indo-European see recently Rᴀᴜʟᴡɪɴɢ 2000: 25ff.; Zɪᴍᴍᴇʀ 1990: 12 (cf. also Mᴇɪᴅ 1994: 53f.); Rᴀᴜʟᴡɪɴɢ 1998: 524 with fn. 13; 530f.

[6] The standard compendia remain, for Old Indian, Gᴜʙʟᴇʀ 1903, Hɪʟᴋᴀ 1910, Söʀᴇɴꜱᴇɴ 1904–25, ᴠᴀɴ Vᴇʟᴢᴇ 1938, and PNRV, cf. Sᴄʜᴍɪᴛᴛ 2000a: 67ff.; 87ff. and Sᴀᴅᴏᴠꜱᴋɪ 2007: 37ff; for Old Iranian, Jᴜꜱᴛɪ 1895 and the Austrian Academy of Sciences project of the Dictionary of Peronal Names in Iranian Languages (*Iranisches Personennamenbuch*), esp. IPNB 1 (as well as special works like Sᴄʜᴍɪᴛᴛ 1978, 2002 and 2006a). Current accounts of this multi-volume onomastic work founded by Manfred Mᴀʏʀʜᴏꜰᴇʀ, edited by Rüdiger Sᴄʜᴍɪᴛᴛ, Heiner Eɪᴄʜɴᴇʀ, Bert G. Fʀᴀɢɴᴇʀ and Velizar Sᴀᴅᴏᴠꜱᴋɪ, are granted by Sᴄʜᴍɪᴛᴛ 2006b and Sᴀᴅᴏᴠꜱᴋɪ 2006: 542 with fn. 7; for the individual volumes, cf. Gɪɢɴᴏᴜx 1986 and 2003; Aʟʀᴀᴍ 1986; Sᴄʜᴍɪᴛᴛ 1982; Hᴜʏꜱᴇ 1990; Fʀɪᴛᴢ 2006.

[7] For a recent introduction into the system of the most ancient Indian and Iranian proper names from the point of view of their (morphological) structure, see Sᴀᴅᴏᴠꜱᴋɪ 2006 (with bibliography) and cf. Sᴄʜᴍɪᴛᴛ 2000a: 1–31, 67–86, 95–114, as well as the rich lit. quoted in Sᴄʜᴍɪᴛᴛ 2006b: *passim*; on the classification and systematization of personal names according to semantic principles, see recently Sᴀᴅᴏᴠꜱᴋɪ 2009. In what follows, I give a brief account of these thematic fields that is supplemented by the presentation of the data in Sᴀᴅᴏᴠꜱᴋɪ 2009, with additional relevant material.

[8] Attempts to apply modern (rationalist) socio-economic theories on Vedic society, largely using Vedic speculations as a starting point or even as "bodies of evidence" had, in fact, more than limited success; in this regard, see the studies of Sᴀʟᴇᴛᴏʀᴇ 1973, cf. the bibliographical references in Rᴇɴᴏᴜ 1931: 146–158 (esp. at §§ 133 and 137) and the items dedicated to economic history in Dᴀɴᴅᴇᴋᴀʀ 1946–85 and Sᴛɪᴇᴛᴇɴᴄʀᴏɴ (ed.) 1992, respectively.

[9] On the Vedic system of metaphors and similes and its internal (sometimes, allegedly, 'irrational') logics, see Gᴏɴᴅᴀ 1949: 21ff. *et passim* and 1959: 206ff.; 211ff. For what regards similes in the RV. with *horses* as comparanda, see Aᴍᴍᴇʀ 1939: 109–112 (of Soma), 30f. (of Agni), 72f. (of Indra), 94 (of the Marut-s), 44 (of Mitra & Varuna), 51 (of the Aśvin-s), 85 (of Uṣas), with conclusions (concerning the 'horse' similes: esp. 133, 136) and statistics (139–157, esp. 139, 140, 144, 146, 152, 153, 157); cf. Gᴏɴᴅᴀ 1959: 210f. and Pʟᴀᴛʜ 1992. Metaphors and similes connected with the (image of) a chariot are displayed in Eᴅɢᴇʀᴛᴏɴ 1919 and, more recently, Sᴘᴀʀʀᴇʙᴏᴏᴍ 1985, Oʙᴇʀʟɪᴇꜱ 1998: 415f., 459f. and 1999: 224ff., 245–250; on the symbolism of the wheel in Indian cosmological speculations compare e.g. Hᴏʀꜱᴄʜ 1957 or Kʀɪᴄᴋ 1982: 326f., fn. 857 (wheel) and *ibid.* 535, fn. 1458 (chariot). – For similes referring to the concept of 'pasture', see Eʟɪᴢᴀʀᴇɴᴋᴏᴠᴀ 1999: 146–149; 137 and 231. – A comprehensive list of such metaphoric uses of the image of chariot and its components in Homer is given by Pʟᴀᴛʜ 1994b: 118–395; cf. also the remarks in Sᴄʜᴍɪᴛᴛ 1995: 285.

theosophical character, so that, for the purposes of material-culture reconstruction, the exegetical treatises sometimes need more interpretative steps themselves than the sources they comment upon![10]

1.3. Thus, only texts of later periods can be really useful for a more detailed, although by no means systematic, history of economy: in the case of the Veda such sources are the monuments of (technical) literature concerning the daily accomplishment of ritual activities, the Sūtras – especially the Śrauta Sūtras dealing with the solemn ritual,[11] the Gṛhya Sūtras concerned with the private, "domestic" ritual,[12] as well as the Śulba Sūtras[13] – prosaic texts of auxiliary character concerning e.g. the construction of sacrificial altars. These texts frankly turn out to be a real treasury for the *Realienkunde*,[14] showing, although in a very 'economic' (here = thrifty and concise) way, specific aspects of the concepts concerned: for example, one can reconstruct, albeit only *per disiecta membra*,[15] the dimensions of several types of chariots[16] (used mostly for representative purposes, in and outside the ritual)[17] or find out the respective functions of different types of carts and wagons for transporting goods. However, the presence of proper names in these sources, if we do not count the names from the mantras or other quotations of literary monuments older than the Sūtras, is rather marginal; the (human) personal names mentioned here consist mostly of (semi-)mythical personalities already known from the Saṃhitās and Brāhmaṇas and only rarely of names of persons contemporary to the Sūtra époque, e.g., of authoritative ritualists. Thus, the appearance of the names of persons vs. *realia* of a clearly-defined socio-economic function shows a largely complementary, if not a privative distribution. In spite of this distribution, perhaps somehow disappointing to the believers in linguistic positivism, the later texts allow us an insight about the motivation of some proper names, granting information about the *appellative* value of the words serving as their derivational basis or underlying to their compositional terms.

1.4. Proper names and epithets can in fact shed light on the position of certain key concepts contained in them among the values of the persons concerned (more precisely, of the generation of their parents),[18] especially of the authors of the respective texts, and their social milieu. But they allow only very general, sometimes rather trivial, conclusions[19] in purely economic regard. Nevertheless, they often contain some of the earliest attestations of the relevant lexical material, as in the case of Old Persian, where the mass of

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[10] One has to relativize the common cliché about 'obscurity' of brāhmaṇic forms of expression in general and to take distance oneself from pejorative qualifications like the ones by W.D. WHITNEY who once called them "aberrations of the human mind" (AJPh 3, 393). Derogatory claims such as those cited in GONDA 1975a: 342 with fn. 17, were too often based on misunderstandings or facile assumptions dispelled by a better text analysis; see the polemics of CALAND 1990: 542ff. against KEITH 1914; in fact, Brāhmaṇas give discrete information both on geographical issues (as WITZEL 1987 tried to show) and about social environment (cf. BASU 1969). However, a good deal of the ritual descriptions and exegetical discussions are pretty far from what was called by Hermann OLDENBERG "vorwissenschaftliche Wissenschaft", while the sober and unpretentious but efficient style of presentation and argumentation in the Sūtras – in which, for the first time, "die Darstellung der rituellen Praxis [beruht] inhaltlich und nicht selten auch sprachlich auf Informationen, die zuvor systematisch aus verschiedenen Quellen gesammelt worden sind" (KLAUS 2000: 183) – would no doubt be more productive for the purposes of the researcher on economic history (for the [ethno-]geographical aspect, cf. BRUCKER 1980).

[11] On their heuristic value, see GONDA 1977: 489ff. and 616–621, SHARMA 1977: *passim* and KLAUS 2000 (e.g. 182ff.) and cf. TSUJI 1970: 183ff. and KASHIKAR 1968: 165–173.

[12] A classical survey is given by OLDENBERG (1886 and 1892, see esp. the respective Introductions); cf. GONDA 1977: 546–615 and 467 with fn. 10.

[13] See e.g. GONDA 1977: 469f.; 473. – On the Kalpasūtras in general, see *ibid.* and cf. GOPAL 1959 (but note WITZEL 1987: 205, fn. 108).

[14] Recommendable is the summary of various themes of agriculture, livestock-breeding, esp. cattle-raising etc. in RENOU 1950/1997: 131–151, esp. 139ff. and 142ff. Concerning the Vedic period, cf. RENOU 1931: 149 and the relevant rubrics in DANDEKAR 1946–85.

[15] See the results of SHARMA 1977 as well as AGRAWALA 1963, for the Pāṇinean evidence.

[16] See the deviations between the reconstructions of RAU 1983: 34 and SPARREBOOM 1985: 127 and cf. OBERLIES 1999: 224.

[17] Cf. the outline given by OBERLIES 1999: 221–227, especially the remarks *ibid.* 221f. (with fn. 4) and 224; furthermore, see the lit. quoted in § 2 below.

[18] E.g. NEUMANN 1991a: 167f.; cf. also NEUMANN 1994; SADOVSKI 2006: 549 with further refs. in fn. 32–33.

[19] It goes without saying that, while personal names like Younger Avestan (YAv) *Yuxtāspa-* that corresponds to an epithet *yuxtā́spa-* identical with Vedic *yuktā́śva-*, allow a reconstruction of an important common Indo-Iranian compound *(h)i̯uktā́ću̯a-* "whose horses are harnessed" ("having his horses harnessed" / "having harnessed his horses"), the recognition of this rather banal habit of the Aryans is of an epistemological value which leaves more to be desired.

personal names and their derivatives attested in the various traditions (above all, beside OPers itself, in Elamic or New and Late Babylonian sources[20]) plays a decisive role within the linguistic material as a whole.[21] Onomastic collections such as the ones by Alfons HILKA (1910: 119f. et passim), Jacob Antoon VAN VELZE (1938: 89–91), Marcus SPARREBOOM (1985: 138f.), and, in more recent time, Manfred MAYR-HOFER with his monograph on Old Iranian (1977a) and Ṛgvedic proper names (2003), list more than 200 items containing the terms for horse, chariot and accessories! However, again, they contain much more often the highly-stylized emanation from what we know from the hymnic poetry than a rational enumeration of data rationally assessable from an economic point of view. That is why, in presenting this material, we cannot make part of the general neo-liberalist tendency of present-day by paying a tribute to the motto 'less *poetry* and more *economy*'! Therefore, let us first concentrate, in the most economic way possible, on the data about the goods wagon versus the chariot of military or representative use, according to the mixed information gained from early Aryan poetry and exegetic literature.

2. There is rich literature on horses and chariots in the Veda and Avesta;[22] among the special treatises concerning the Veda, one should underline the pioneer presentation of relevant material made by ZIMMER 1879[23], the respective lemmata of the *Vedic Index*[24], the detailed accounts on the horse sacrifice in SCHWAB 1886 and DUMONT (1927 and 1948, see below) as well as Marcus SPARREBOOM'S dissertation (1985) on the chariot. Substantial insights in horse-riding are contained in the survey by Harry FALK 1994; useful for studies of particular aspects are e.g. GONDA 1965: 71–114[25] and Thomas OBERLIES' reflections on the horse and chariot with a particular focus on their place in (the symbolism of) the solemn (Soma) ritual[26]. Overviews concerning the role of the horse in Iranian, Anatolian and Greek traditions, respectively, have recently been given by OETTINGER 1994 as well as PLATH 1994a[27]. For an outline of the problem from an Indo-European perspective, see, beside SCHMITT 2000b: 402, also the refs. at MALLORY – ADAMS (eds.) 1997[28] and a series of the recent works by Peter RAULWING[29].

2.1. It is well-known[30] that for ancient Indo-Iranians, vehicles often played a rôle far more important than houses. For a largely migrating community like the early-Vedic one,[31] this statement is not paradoxic and not exaggerated at all – one can see the phenomenon reflected in numerous constant epithets as well as in several proper names attested since the oldest Vedic period. The circumstance that the Vedic Indians often used to spend more time on their wagons and chariots than in permanent accommodations[32] is underlined for example by (poetic) epithets like *rátha-proṣṭha-* m., attested in the loc. pl. at RV. 10,60,5 (*ásamātiṣu*

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[20] A study by Ran ZADOK of Iranian personal names in New and Late Babylonian tradition (IPNB, vol. VII, fasc. 1b) is being prepared for print in 2008 at the Austrian Academy of Sciences.
[21] See MAYRHOFER 1973; 1977b.
[22] For general remarks on the economic function but also on the ritual and symbolic presence of horses among other animals in the Vedic world, see e.g the sketches in RENOU 1950/1997: 121f., 128–130 (military function) and 143f. (economics) or by MACDONELL 1899: 150–151, 109, 165f. (sacrifice).
[23] See pp. 71, 76f.; on horse-breeding: 221ff., esp. 230–232.
[24] MACDONELL – KEITH 1912: 42f., s.v. Aśva; 21f., s.v. Anas; 201–203, s.v. Ratha, as well as 203–207 on compounds or derivatives containing this element as a compositional term or derivational basis.
[25] In the chapter on "The absence of vāhanas in the Veda and their occurrence in Hindu art and literature"; see especially pp. 95ff. on the history of driving and riding in the Ind[o-Iran]ian tradition from an Indo-European perspective.
[26] OBERLIES 1999: 221–256, in the detailed excursus "Vājasāti II: Der Siegeslauf des Rennpferdes"; on Vedic epithets with the word for 'horse' or with the concept of 'horse sacrifice' as point of reference, cf. also GONDA 1959: 210f.
[27] On Early Greek chariot see PLATH 1994b and cf. SCHMITT 1995.
[28] Containing also an account on various earlier works, e.g. by James P. MALLORY or Colin RENFREW.
[29] E.g. RAULWING 1995; 1998; 2000: esp. 25–36, 60–68; here, archaeological data meet linguistic interpretations (mainly by Manfred MAYRHOFER and Rüdiger SCHMITT). See also ZIMMER 1994: 32f. and cf. the refs. in MEID 1989: 10f., 15, 18ff., 25–27 etc. (and MEID 1994: 54–57 [horse] and 57–64 [chariot], with partially out-of-date etymologies).
[30] See e.g. RAU 1983: 22ff.; a summary on the *status quo* (till 2000) of the research in linguistic issues about the horse from a Proto-Indo-European point of view is given by SCHMITT 2000b: 402; cf. HÄUSLER 2000: 403–404 ("§ 9. Domestikation des Pferdes und Ursprung des Wagens").
[31] See VAN LOHUIZEN-DE LEEUW 1975 and cf. SPARREBOOM 1985: 4 with fn. 15.
[32] Cf. Megasthenes' testimony (*Indika*, fragment L, 2–3) quoted by RAU 1983: 22 (compare RAU 1977: LXXXV); on the value of Megasthenes as a source for Ancient Indian history see esp. MCCRINDLE 1926.

ráthaproṣṭheṣu) and probably meaning 'having the chariot (*rátha-*) as night-camp / camp-bed (*próṣṭha-*)' (PNRV 2.1.414).[33]

2.2. It is also for reasons both of religious relevance and of social prestige that we find a series of *proper names*, or, something more: personal names of heroes or nobles containing either the stem **Haću-* 'horse' (Avestan [-]*aspa-*, Vedic [-]*aśva-*) or the stem **rátHa-* (>**rátʰa-*) 'chariot' (Av. [-]*raθa-*, Ved. *rátha-/°ratha-*)[34]. The onomastic data are of special value for the history of Iranian languages, since our most ancient sources for instance of Old Persian are delivered by catalogues of proper names, attested on myriads of cuneiform tablets from Elam to Babylonia.[35] Thus, the two fundamental *means of war* of the Aryan nobility are reflected in proper names like (a) Elam.-Iran. *Pirriyašba*,[36] to be reconstructed as **Friya-aspa-*, attested also among Indo-Aryans of Near Asia in the middle of the 2nd millennium BC as **Prīta-aśva-*, **Priya-aśva-*,[37] from Indo-Iranian **priĭa-(H)aću-* 'whose horses (to whom horses) are dear',[38] and (b) RV. 1,122,7 *Priyáratha-* 'whose chariot (to whom the chariot) is dear' (PNRV 2.1.353), with (formulaic) phraseological parallels from Vedic poetry (cf. PNRV, p.64).

3. The Vedic chariot "can only be reconstructed from references in the literature, since with the exception of one wheel (!) no actual chariots or even chariot parts have been revealed by archaeology"; in Old Indo-Iranian languages, we distinguish between two main types of vehicles (cf. lexical accounts in MACDONELL – KEITH 1912: 21f., 201ff.; SPARREBOOM 1985 with lit.). The first one is the *travelling* or *goods cart*, called in Sanskrit *ánas-*. The second type comprises the so-called *military chariot* or *race chariot*, subsumed under the name OInd. *rátha-*, OAv./YAv. *raθa-*. A number of technical terms – parts of the chariot and some terms for manœuvres – cannot be recovered, as even the classical work on 'Chariots in Veda' by SPARREBOOM (1985) had to admit as a part of its conclusions, after years of research and a careful assessment of the available facts. The early representations in art, those depicted at Sāñchī in approximately the 1st century after Christ, are claimed to be "fairly realistic".[39] Of course, a place for a '*ignoramus atque ignorabimus*' always remains. But in the microcosm of Avesta and Veda, the meticulous analysis of poetical texts not only can shed light on many details of the construction of real chariots or wagons; it can also be supported by the data of sober treatises like the ones in the Śrauta Sūtras (see above), in which the concepts appear in their direct lexical meaning.

3.1. Much more than about goods carts or travelling carts, our texts inform us about *military* or *race chariots* – Vedic *rátha-*, Avestan *raθa-*. Both Ancient Iranian and Ancient Indian poetry gives us rich material about this central element of military life but also of Aryan ritual: for the most detailed descriptions of an ideal wagon are not the ones of kings' or generals' chariots but the ones of the chariots of gods like Miθra in the Avestan Yašt 10, or Indra and Agni in the Rigveda. Depictions of gods as riders or charioteers make an important part of divine imagery in sacral poetry.

Thus, in Avesta, we have the champion's name *Aγraēraθa-* meaning 'whose chariot is on the front-line'. A series of poetical formulae in Veda and Avesta corresponds to this name – we have only to recall the Old Indian expression *ágre ráthānām* 'on the top of the chariots' in RV 9,96,1. One should emphasize also the series of Avestan names of brothers *Dāraiiaṭ.raθa-*, *Frāraiiaṭ.raθa-* and *Skāraiiaṭ.raθa-* in Yašt 13,[40] meaning 'the one who withholds the chariot', 'the one who promotes the chariot', 'the one who sets the

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[33]   HOFFMANN 1992: 862 (with lit.); EWAia 2,193; PNRV 75, with further lit.

[34]   EWAia. 2,429f.; on the inventory of Avestan derivatives cf. HUMBACH 1977, on the type *rathī́-* s. also the remark in KLINGENSCHMITT 1992: 104.

[35]   MAYRHOFER 1973: 5; 1977b: 7f.; SCHMITT 2000a.

[36]   MAYRHOFER 1973: 218; IPNB 1,45, no. 148 and 146.

[37]   A typological parallel in the Germanic name system is delivered by Old English *frīd-hengest* 'a horse well looked after', SCHMITT 1967: 243f., IPNB 1,45.

[38]   See EWAia. 2,189, PNRV 2.1.353n.

[39]   See the exposé by SPARREBOOM 1985: 83–117, esp. 92. Cf. *ibid.*, 113: "On the Sāñchī monuments seventeen representations of cars can be found, sixteen on the pillars and gateways around stūpa I and one on a balustrade of stūpa II. They are all two-wheeled, open vehicles drawn by horses, with the exception of one covered, two-wheeled cart, which is drawn by two oxen [...]. Apart from one relief on which the chariot is drawn by four horses [...], all chariots are drawn by two horses."

[40]   IPNB 1,35, no. 102; 1,44, no. 141 and 1,76, no. 284; SCHMITT 2000a: 6, 11, 101, 148; 2006; SADOVSKI 2007: 62.

chariot into motion', which correspond to Ancient Indian names of the same second term, as for example, *Adhiratha*-[41] or epithets like *apratiratha*- 'whose car has no "against" / no opponent'[42].

The idea of the 'brilliant chariot' is expressed by the compound name *citráratha*- (PNRV 2.1.177), with RV + *citrá*- 'glänzend', Gāthic Av., YAv. *čiθra*- as a first term. A shortened form of this or a similar name might be present in RV 8,21,18; Br + *cítra*- m.[43] (with an accent shift), just like also in Old Pers. **čiça*-, and Med. **čiθra*- in a hypocoristicon OPers. **čiçina*- < **čiθrina*- etc. For *Citrāśva*- of Epic Sanskrit, VAN VEL-ZE 1938: 90 and 151, fn. 471a, posits a meaning "picture" + "horse", based on Sāvitrī (2,13). This context-dependent interpretation, however, even if right, should not leave out the tradition that a "white horse with black ears is mentioned in the Atharvaveda [5,17,15] as being of special value" (MACDONELL – KEITH 1912: 42f.); the epithets in the text are *śvetá*- 'light, white' and *kr̥ṣṇakárṇa*- 'black-ear[ed]'. MAYRHOFER (IPNB 1,77f., no. 292) assigns the name *Spiti*- to the same group, reconstructing a compound full form as **Spitii-aspa*- 'mit weißen Rossen' and referring, for what regards the second term, to the fact that the name-holder's brother's name is *Ərəzrāspa*-.

3.2. Beside the appellative *dáśaratha*- m. 'a train/procession of ten chariots', from an adjectival possessive compound of the meaning 'containing ten (*dáśa*-) chariots (*rátha*-)', GRASSMANN[44] considers (for RV 1,126,4), as an alternative, a personal name which PNRV ad loc. compares with names like *daśaratha*- (attested from Epic Sanskrit on), Pāli *dasaratha*-, Prākrit *dasaraha*- m.

The attestations not only of the two-horse chariots ("*biga*"-s) but also of *quadriga*s in the holy hymns correspond to personal names like Young Avestan *Čaθβaraspa*- 'having four horses, ein Viergespann habend", compare the YAv. complexive compound *čaθβarə.aspa*- 'a complex of four horses, *Viergespann*', or YAv. *Biiaršan*-, meaning perhaps 'Having (or: Driving with) two stallions'[45].

4. The last two names bring us to the next point, the *horses*.[46]

4.1. While the normal designation of 'horse' in Vedic is *áśva*-, m. (and that of 'mare': *áśvā*-, f.), there are manifold further terms: the relevant epithets are a legion and a big part of them became then quasi synonymous with 'horse', each of them preserving, nevertheless, a specialized meaning.[47] Thus, an epithet of the semantics 'the swift', **aru̯ant*-, already existing in Indo-Iranian – means both in Ved. *árvan*(*t*)- and in Av. *auruuaṇt*- also 'racehorse' (EWAia. 1,121f.), *árvatī*- (RV, AV) meaning '(swift) mare'. – With the same stem as first term we meet, in Yt. 5,105, the name *Auruuaṭ.aspa*- (IPNB 1,26f. no. 57), father of Yt. 15,28 and 19,41 *Vīštāspa*- (IPNB 1,97, no. 379), in accord with the tradition of name-giving described in §§ 4.2. and 5.4. below. The meaning of the last-mentioned noble name, one of the most discussed in modern Old Iranian onomastics,[48] is posited as 'whose horses are loosened (to run asunder)' (~ Ved. *víṣita- áśva*-); its antonym from the same verbal root is *Hitāspa*- (IPNB 1,50, no. 171) 'whose horses are bound (at the chariot [?])', on the other hand, its pendant with the same adverb/preverb in the first term is RV+ *Vi̯yaśva*- 'whose horses are asunder" (or, else, "away"!)[49], an Entheos compound.

To this thematic complex belongs the post-RV compound *Sākam-aśva*- (Jaiminīya-Brāhmaṇa 3,101), the name of a descendant of Priyamedha.[50] It means 'whose horses are (collected) together', with the adverb *sākám* as its first term, and is to be added to the lemma on *sākám* in EWAia. 2,721f.

[41] VAN VELZE 1938: 91; SCHMITT 2000a: 6.
[42] *Apratiratha*- is notably also the name of the RV hymn 10,36 in the Agniciti ritual (as well as during the ritual of the foundation of sacrificial fire); see KRICK 1982: 327, fn. 857.
[43] PNRV 2.1.176, EWAia. 1,542.
[44] Literature in PNRV 2.1.223.
[45] With IPNB 1,32, no. 86, thus against Justi's interpretation as 'zweier Männer Kraft habend'.
[46] From the literature published after the appearance of SPARREBOOM's monograph and OBERLIES' compendium, see the summary of Indian facts given by FALK 1994 with regard to the horse-riding; see also COOMARASWAMY 1942 and cf. the (cursory) survey in ESNOUIL 1986.
[47] On the denotations that follow cf. EWAia: s.vv.; MACDONELL – KEITH 1912: 42f.
[48] Most recently, cf. SCHMITT 2006b: 124; 125, fn. 191; 195 with fn. 178.
[49] SADOVSKI 2000: 468, § 1.3.1.2 (on the compound type); PNRV 2.1.463; 2.2.436; cf. the patronymicon in 2.1.495.
[50] Cf. CALAND 1919: 243, no. 181f.; prosopography *ibid*., 318.

Further epithets – and secondary denominations – of horse are: *átya-*, m., of the mare: *atyā-*, f., perhaps 'the runner', if from the family of *sám+at-* 'to run off'[51]; – 'the (horse) harnessed in a team' (*sapti-*, cf. EWAia 2, s.v.); – 'the one furnished with the award of victory' (*vājin-*); on the concept of *vāja-* and the derivatives and compounds with its participation, see now PINAULT 2006. The semantic range of the 'spurring-on' is present in *háya-*, m., with its pendant in the personal name *Haya-* (Pur.)[52], cf. the second term in the compound adjective *aśva-hayá-* 'driving horses, making horses dash'. A specific Indian designation of the mare is, moreover, *váḍabā-*, f. (KS.+; EWAia. 2,494), to which a later (Purāṇic) proper name *Vaḍavā* (VAN VELZE 1938: 89a), with phonological variation, corresponds. The 'swiftness' of horses is present as a marker also in the semantic range of the Avestan *Xšuuiβrāspa-* 'mit flinken Rossen'[53], from a common Indo-Iranian **kšu̯ipra-*, YAv. *xšuuiβra-* 'deft, nimble', Ved. *kṣiprá-*.

4.2. Among the proper names containing the word for 'horse', we find *inherited ones* like the Avestan *Ərəzrāspa-* 'Having fast horses', identical with Ved. *R̥jráśva-*, or the Avestan *Frīnāspa-* (s. also § 4.3. below), related to **Prīta-aśva-*, **Priya-aśva-* attested in Aryan of Near East (comparable to the Vedic formulaic phrase *áśvān prī-* 'to take care of the horses'). In a significant contrast to this Indo-Iranian situation, *Mycenean Greek*, for instance, does not use names containing the word for 'horse', they appear from Homer onwards.[54] However, as Ernst RISCH[55] observes, "Bemerkenswert ist [...], dass statt 'Pferd' 'Wagenteile' oder 'Wagen' in [mykenischen] Namen mehrmals vorkommen". Both Ancient Greek and Ancient Indian make a broad use of the inherited Indo-European method of name-giving by means of the repetition of elements of names of persons as (part of the) names of their relatives.[56] In exactly the same way we find the element 'horse' present in the names of *both* tyrant-killers, the brothers *Hippias* and *Hipparchos*,[57] we find in the Mahābhārata[58] the names of the Dānava brothers *Aśva-*, *Aśvapati-*, *Aśvaśiras-*. In this typological parallel, which moreover includes an element of common origin (PIE **h₁eK̑u̯os*)[59], we notice also the same method of using abbreviated one-stem names beside compound ones not only in "vertical" genealogical line, between (grand-)father and son[60], but also on a collateral level, in the names of brothers (like Skt. *Vr̥ka-tejas-* and *Vr̥ka-la-*)[61], of sisters and even of twins[62]. In this respect, too, we should not forget also the brothers' names of the Avestan Yašt 13 quoted above – *Dāraiiaṭ.raθa-*, *Frāraiiaṭ.raθa-* and *Skāraiiaṭ.raθa-* (SADOVSKI 2007: 62).

4.3. It is precisely the names containing the word for 'horse' that build a whole series of *comparanda* between Iranian and Indian. Here we have the Old Persian **Vidāspa-* 'finding/obtaining horses', to be analysed as **Vida-+aspa-*, versus the Ved. **Vidád-aśva-*, attested in the patronymic (PNRV 89) *Váidadaśv-i-* (: RV+ *aśva-víd-*). The same first term also appears in another compound with a domestic animal in the

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[51] EWAia. 2,58f., with refs., on p. 59, to (alleged?) Iranian parallels like the Scythian personal name Ἀτέας, on which see now MAYR-HOFER 2006.

[52] Cf. VAN VELZE 1938: 89a; phraseological parallels and etymological analysis in EWAia. 2,803; the latter underlines the relation of this name in origin with the Armenian appellative *ji* 'horse', on which see in detail Ch. DE LAMBERTERIE in: PINAULT – PETIT 2006 (eds.): (222–)223 and cf. R. SCHMITT, Kratylos 53, 2008, 59.

[53] Yt. 13,111, cf. IPNB 1,101, no. 399, cf. also no. 397.

[54] NEUMANN 1991a: 174; 1991b: 323; 1994.

[55] RISCH *ad* NEUMANN 1991a: 175, in a contribution to the conference discussion.

[56] See most recently SADOVSKI 2007, with lit.

[57] *Der Kleine Pauly* 4,681-685, s.v. 'Pferd'.

[58] Mbh. 1,59,24 (1,65,2531–2532), cf. SÖRENSEN 1904–25: 7b, 8a, 9a.

[59] See EWAia. 1,139f.; 807; 2,827, with further refs., and cf. ZIMMER 1994.

[60] We can call this phenomenon 'Hildebrand syndrome', if we have repetition of *final terms*, or 'reverse of the Hildebrand syndrome', respectively, if the repeated terms are the initial ones; cf. SADOVSKI 2007: 61–64 and 58–59, with lit.

[61] HILKA 1910: 71; cf. SCHMITT 2000a: 11, with further instances from Thracian and Germanic; the case of the Gk. simplex name *Hippos* does not belong to the type of *Aśva-/Hippias/Vr̥kala-*; in this case we have a *nickname* of a winner at the Olympian games called *Hermogenes* (SCHMITT 2000a: 11), cf. Pausanias 6,13,3.

[62] We have a series of typical examples for this type of name-giving up to our day e.g. in German (*Bernhard* and *Bernfried*; here, also alliteration of the first consonants can be a marker of relation, cf. KUNZE 1998: 29a on the Nibelung names *Gunther*, *Gernot*, *Giselher*, and *Grimhilt*), Italian ([*U-*]*Baldo* and *Arcimbaldo*, of Germanic origin), and Bulgarian (*Svetozar* and *Svetomir*), to mention only three representatives of modern IE language groups such as Romance, Slavic or Germanic.

second term, the Avestan *Vīdaṯ.gu-* (: RV+ *go-víd-*) 'finding/obtaining cows'.[63] Similarly, the name YAv. *Arəjaṯ.aspa-* (six times in Avesta) means 'attaining horses'.[64] Acquisition of and care for the horses possessed was considered a virtue so important that this concept was present already in the common Indo-Iranian system of proper names: so in the YAv. *Frīnāspa-* 'whose horses are well looked after'. "Looking after" means in this context everything connected with the physical health and welfare of the horse: Further names represent the horses of the name holder should be 'fat' – Yt. 13,131 *Tumāspana-*, a patronymicon from a **Tuma-aspa-* 'having fat horses' (IPNB 1,81, no. 308).

A quasi "double negation" of this last concept is contained in the Purāṇic name *A-kṛśāśva-* 'whose horses are not meagre', as opposed to the denomination of a person as "the one with the meagre/weak/reprehensible/unsatisfactory horses", a motif in the system of name-giving which exhibits strong tabooistic traces. The last name is the one of the most elevated Aryan heroes, attested from the Avesta on – *Kərəsāspa-* (IPNB 1,60, no. 216; for other names with this element, cf. *ibid.* 59f., no. 213–215). To this type belong also names like the sacrificer's name *ninditā́śva-*, m. (RV 8,1,30; PNRV 2.1.276) meaning 'the one whose horses are unsatisfactory'.

What regards material-economic parameters, "[h]orses were highly prized [...] and were not rare [...], for as many as four hundred mares are mentioned in one Dānastuti ('Praise of Gifts'). [...] They were on occasion ornamented with pearls and gold." (MACDONELL – KEITH 1912: 42). Horses are not only bought in an expensive way; a horse can itself be a price unit: Compounds like *pañcāśva-* 'the one who costs (is bought for) five horses'[65] (AiGr II/2,53, II/1,309; similiar price amounts are also given in terms of cows).

4.4. The horse is, of course, not only a prestigious possession but also a real cult object. The colour of the horses is not only a distinctive feature of different types and noble breeds, it has of course various implications in a mythological respect. The Veda distinguishes, e.g., dark-brown horses (Vedic *śyāva-*, Avestan *siauua-*) – and among the list of compound personal names of Proto-Indo-Iranian origin we can count the one of the Rig-Vedic poet *Śyāvā́śva-* 'the one who has brown horses', parallel to the Avestan **Siāuuāspa-* (attested in the patronym *Siāuuāspi-*)[66]; cf. also *Siiāuuaršan-* m. 'whose stallions are dark', the name of *Haosrauuah-*'s father. A (not small) part of attested one-stem names like RV 8,85,3.4 *kṛṣṇa-* or (RV 1,116,23; 1,117,7:) *kṛṣṇiyá-* (PNRV 2.1.149-150.)[67] have their origin as abbreviated forms of compounds, and among the latter, one can easily expect formations of the second term 'horse', just like Gk. Μέλας 'Black' vs. Μελάνιππος 'Having black horses'. Furthermore, the sources differ between light or white horses (Vedic *śvetá-*, Avestan *spaēta-*), dun horses (*harita-*, *hari-*), ruddy horses (*aruṇa-*, *aruṣa-*, *piśaṅga-*, *rohita-*), etc.[68] These colour differences are reflected, once again, in proper names: such as Young Avestan **Dāzgrāspa-* 'whose horses are *dāzgra-*' (that is to say, 'coloured', or perhaps even 'dark'), attested in the patronymic derivative *Dāzgrāspi-*; compare personal names like Young Avestan *Dāzgrō.gu-* 'whose horses are *dāzgra-*'. – More on names containing elements referring to horse in SADOVSKI 2009 (with discussion of further works by W. O'FLAHERTY [body-part material], H. FALK, N. OETTINGER and R. PLATH). On later Sanskrit names including words for colours cf. VAN VELZE 1938: 90a.

4.5. Horses and chariots are used in ritual both in a purely religious function, as fundamental elements of a series of central solemn ceremonies such as the Aśvamedha, Vājapeya, Agnyādheya, etc., but also in an aspect which has a certain economic relevance – as compensation (*dákṣiṇā-*) for the priests after the accomplishment of sacrificial activities. For as regards the first aspect, a series of personal names is connected with the solemn ritual of the Horse Sacrifice (*aśvamedhá-*)[69]. In RV, in whose First Maṇḍala three

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[63]   See EWAia. 1,479, recently SCHMITT 2006a: 289f. and Sadovski 2006: 547, § 3.2.2.2., both with lit.

[64]   So IPNB 1,20, no. 22: from the Avestan root *arj-* 'to attain' (and not from *arg-* 'to be worth', cf. no. 20-21 and 23).

[65]   Orig. 'the one who has (a complex of) five horses', of the type of "Ableitungskomposita" discussed by RISCH 1945: 19ff.: *tetrá-drachmos* 'vier Drachmen wert' or, substantivated, *hekatómboion* 'Besitz, der hundert Rinder wert ist'.

[66]   Attestations and commentary in PNRV 95; SCHMITT 2000a: 48; SADOVSKI 2006: 543, § 2.2.

[67]   On *viśvaka- kārṣṇi-* „Sohn des Kṛṣṇa" (Anukrāmaṇī) cf. GELDNER 1951–54: 2,410b and PNRV 2.1.149.150(n.).468.

[68]   MACDONELL – KEITH 1912: 42, cf. EWAia. s.vv.

[69]   A classical compendium on this central religious ritual remains DUMONT 1927 and, on its Taittirīya-Brāhmaṇa version, DUMONT 1948; for reconstructions of its Ṛg-Vedic form (*per disiecta membra*) see the lit. in OBERLIES 1998: 290–292, esp. 290 with fn. 677 (incl. works on some Indo-Celtic parallels of particular moments of the ritual); cf. also EWAia. 2,377 (with literature till 1996).

important hymns are devoted to this royal ritual,[70] a king's name *aśvamedha-* occurs in the hymn RV 5,27,4.5.6 (PNRV 2.1.43), beside a patronymicon *āśvamedhá-* m.[71]

The name of the ritual is taken in the epics[72] as a first term in the king's name *Aśvamedheśvara* – a compound of three elements (but by itself, of course, of two terms, one of which compounded: *aśvamedha-* + *īśvara-*); also in the first term of *Aśvamedhadatta-* (Mbh 1,90,95B = 1,95,3838; SÖRENSEN 1904–25: 8a) more probably here we have to do with the denomination of the ritual 'given by the Horse-Sacrifice' than with the personal name *Aśvamedha-*.

4.6. Individual elements of the horse or chariot armour such as the reins are also part of proper names. RV. 1,122,13 attests a compound *iṣṭáraśmi-*, earlier taken as an epithet (PW I 831, GRASSMANN 1873: 928) but later interpreted by GELDNER 1951: 1,170, IV 92b, EVP 5, 7 and PNRV 2.1.76. as a name of a sacrificer (*yajamāna-*); the first term corresponds to the one in *iṣṭáśva-* (RV 1,122,13, PNRV 2.1.77) 'who has desired horses', a further case of a sacrificer's name (or epithet?) of the same semantic sphere.

In the sphere of onomastics, we have attestations for the military use of horses, such as the Old Persian name (in the Elamic tradition) *Aš-ba-ya-u-da* 'horse-fighter'[73] that corresponds to the Young Avestan apposition and epithet *aspāiiaoδa-* 'horse-fighter'.

5. But now let us turn from *war* to *peace*, with the various kinds of transport wagons or carts.

5.1. As a rule,[74] the cart (*ánas-*) was furnished with two wheels and two shafts which joined together in its front part. It was drawn by a team of two oxen. As regards the outer shape, it could vary depending on the purpose: The wagons consisted of a fur-coated wicker-work corpus. This wagon body rested on a rack or base. It was called in Sanskrit by a series of terms of metaphoric origin, of which *nīḍa-* 'nest' is the most common one. Rigveda, Book 10, Hymn 85, 7 calls the wagon corpus *kośa-* 'treasure'. The main body of the cart probably had a somewhat higher front part (Vedic *rathaśīrṣa-*) and two sidewalls, on which sometimes metal plates or balls hung for decorative purposes. Some carts, especially the ones for transporting persons, could be covered with tarps of plaited straw. When unhitched, two-wheeled wagons used to be held in a vertical position by supports set under the shafts.

5.2. Also in the case of the *ánas-*,[75] the first attestations in our sources give us details in a strictly ritual or religious-poetic context. Among the divinities strictly connected not only with a chariot (*rátha-*) but specifically with a wagon (*ánas-*) we have to emphasize the Dawn (*uṣás-*)[76]. One of the oldest descriptions is that of the wagon (*ánas-*) of the bride in RV. 10,85,8–12, a wedding hymn which uses not only the wagon as a whole but also its various parts such as (wagon-roof) shelter (*chadíṣ-*), wheels (*cakrá-*), axle (*ákṣa-*), shaft (*pratidhí-*) etc. as starting point for a series of metaphorical identifications that elevate the image of the bride (called Sūryā, "Sunny") to a highly sacral level adequate to the holy character of the ceremony:

> The praising songs were (her) shaft (*pratidhí-*) [...]. Mind was her wagon (*ánas-*), and Heaven was the wagon-shelter (*chadíṣ-*); the two Lights [perhaps = Sun and Moon] were the wagon-pullers (oxen) [...] (after tr. WHITNEY – LANMAN).

5.3. The primary *economic function* of the *ánas-* cart was to transport food; in our texts we find a detailed account of the goods loaded on and delivered by means of these small carts. Thus, the collections of the Black Yajur Veda like the MS, KS and KpKS report on the transport of *field fruits*. In Kāṭhaka-Brāhmaṇa we read about carts for *corn* (refs. at RAU 1983: 26, fn. 51). More specially, this concerns *rice* and *barley*, the

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[70] On the RV hymns on the sacrificial horse cf. the important notes in GELDNER 1951: 221–227.

[71] RV 8,68,15.16; on the presentation of the genealogical line from (great) grand-father to grand-son by means of a series of such (pro-)patronymica see SCHMITT 2000a: 21, 78, 183. Cf. PNRV 2.1.43, n.: „Für die Anukr[amaṇī] gelten *aśvamedha- bhārata-* oder die anderen in RV 5,27 genannten Könige (*tryaruṇa-* [...], *trasadasyu-* [...]) bzw. *atri-* [...] als Di[chter] dieses Liedes [...]".

[72] At Mbh. 2,26,8ᵃ (= 2,29,1066), cf. SÖRENSEN 1904–25: 8a.

[73] A dossier in MAYRHOFER 1973: 130; cf. IPNB 1,22, no. 32; MAYRHOFER 1977b: 23.

[74] We follow here the presentation of the facts carried out by RAU 1983: 22–27.

[75] On the etymology and some phonological problems due to (apparently) irregular forms, see EWAia. 1,71.

[76] It is significant that from 12 attestations of the word *ánas-* in the RV, 5 or 6 refer directly to Uṣas' wagon. Cf. e.g. the well-spread mythical topos of the Dawn who, chased by Indra, was even compelled to abandon her wagon (*ánas-*), after it had been smattered by him with the *vajra-*: RV. 4,30,9–11; 2,15,6c, 10,138,5d, basis for a simile in 10,73,6b.

two holy plants of Vedic sacrifice, and we find data on their transport in a series of ritual Sŭtras such as the Āpastamba-, Satyāṣadha- or Vaikhānasa-Śrauta-Sūtra.

Traditionally[77], the Ṛṣi name *arcanānas-*, m. (RV 5,64,7, AV +)[78], is interpreted as a compound with the word 'cart' as a second term and with a first term belonging to the root *arc* 'praise; shine'. An alternative interpretation that opts for a suffixal *-(H)nas-* has been given by F.B.J. KUIPER (1991: 46) and recently revived by MAYRHOFER (EWAia. 2,254; PNRV 2.1.29.) with the conclusion: 'Wohl kein Kompositum mit aia. *ánas-* „Lastwagen, Troßwagen"'.

What could favour an interpretation that operates with *ánas-* in the second term is the statistically outstanding connection between the *ánas-* wagon and the Dawn goddess (*uṣás-*), on the one hand (see above) and, on the other, the close relation of the verb *arc-* with the Dawn (both as divinity and as phenomenon), attested many times from the RV[79] onwards.

5.4. A special sort of transport cart, the *havirdhā́na-*, serves the purposes of the big Soma sacrifice.[80] The RV-Anukramaṇī lists *havirdhāna-* (*āṅgī-*) as the name of the 'author' of the hymns RV. 10,11–12 and 13 (alternatives see in PNRV 2.2.539). Here one frankly cannot ward off the impression that the Anukramaṇī, like in many other cases, just extrapolates and personalizes the object of the hymn, which in the case of RV. 10,13 are "die beiden Havirdhānas, d.h. die Wagen, auf denen die Somapflanzen zum Opferplatz gefahren wurden" (GELDNER 1951–57: 3, 140). However, this does not prevent the possibility of including this name in the Post-Vedic onomasticon – indeed, several Purāṇas such as VP 106, BhP 4,24,5.8 etc. attest *Havirdhāna-* as the name of a son of king *Antardhāna-*. It is a pair of names of father and son shaped in good old Indo-European tradition, in accord with the "Hildebrand syndrome" (see above); for reasons of completeness one has to say, however, that in Epic Sanskrit we find a pair carrying the names of *Antardhāman-* (father) and *Havirdhāman-*[81] (son)[82] respectively. – On the contrary, the identical phonological form of a further Vedic cart type, *pravā́hana-* (about which shape and function the Vedic sources do not give sufficient information), and a name of a person from the ŚB on (also ChUp), has no immediate consequences since both words have an obvious semantic nucleus 'carrying away' that could be presented in both of them independently of the technical meaning of the appellative as 'a specific sort of cart'.

In the most ancient Indian poetry and prose, we meet circa a dozen different forms and names of carts, at least three of which are worth mentioning here: The heaviest type called *indrā́ṇasa-* is the only big cart known from our sources. It has four powerful wheels and the height of a sacrificial post.[83] – Catering and kitchen utensils used to be transported on the so-called *mahā́nasa-*. This word is attested at AVP 5,1,2d (s. ed. Lubotsky ad loc.) and exists also later on, in Classical Sanskrit, where it simply designates the *house kitchen*! The original meaning must have been 'the big load(ing-cart)/baggage(-train)', partially showing the Proto-Indo-European etymon of

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[77] See AiGr II 1,92, HILKA 1910: 139 (in the category "Wagen (Streitwagen)"); VAN VELZE 1938: 91b (under the rubric "chariots"!); GELDNER 1951–57: 2,73b, ad RV 5,64,7c; 4,37a.

[78] The Anukramaṇī lists an *arcanānas- ātreya-* as the author of RV, 5,63.64 and perhaps also of 8,42 (GELDNER 1951–57: 2,356a, PNRV, *l. cit.*)

[79] Cf. e.g. the causative in RV. 3,44,2: *haryánn uṣásam arcayaḥ sū́ryaṃ haryánn arocayaḥ*; in the hymn 1,48 dedicated to Uṣas, stanza 13 praises the *arcáyas*, her rays (on them cf. also the hymn to Uṣas as Heaven's Daughter, 5,79, esp. stanza 8), also denominated (from the same root) *arká-* (multiple attestations) and *arcíṣ-* (RV 1,92,5, 1,157,1).

[80] See e.g. MYLIUS 1995: 141: "1) Bezeichnung zweier hölzerner, mit Matten bedeckter Wagen, auf denen nach dem [...] *agnipraṇayana* die Somastengel zum Pressen auf die Opferstätte gefahren werden; dies erfolgt am Vortag des eigentlichen Preßtages. [...]2) die auf acht oder zwölf Stützen errichtete Überdachung oder Überdeckung dieser Wagen."

[81] Mbh. 12,99,23.36 (= Mbh.13,147,6829, SÖRENSEN 1904–25: 320, s.v. Havirdhāman: „*Prajāpatiḥ*, son of Antardhāman and father of Pracīnabarhis").

[82] Here with a variant of the final term that apparently points out to another deverbative formation of *antar-dhā-* and an underlying syntagma of *dhā + haviṣ-*. In this case, at any rate, the question of the priority of the one group of formations to the other should remain open, since the Purāṇic couple could theoretically also have an independent existence with regard to the ṛṣi name Havirdhāna given us by the Anukramaṇī – even if VAN VELZE (1938: 51b) classifies the Purāṇa attestation of the latter one under the rubric "[Names based on t]he material for the sacrifice".

[83] RAU 1983: 27, with evidence from the Baudhāyana and the Vādhula Śrauta Sūtras (*ibid.*, fnn. 58–59); paradoxically, the lemma is lacking in MYLIUS 1995: 41, as do the other compound forms of *ánas-* as well as the simplex itself.

the word *ánas-*. It is related to the Latin *onus*, *-eris*, meaning 'load, burden, freight, luggage, baggage'. The Vedic word then restricted its scope on the specific loads carried on the cart for the kitchen. – In the system of proper names, we can find a series of personal names derived from kitchen utensils[84] but none going back to this specific word; BhP attests only a toponym Mahānasa as a name of a mountain.

But this cart had not only 'culinary' functions:[85] it served also for carrying *firewood*, as evident from RV 10,86,18; *stones*, as proven by the Pañcaviṃśa-Brāhmaṇa 14,3,13, and even *dead bodies*, as we can see in several Śrauta-Sūtras like the ones of Śāṅkhāyana, Lāṭyāyana, Baudhāyana, Āpastamba, Satyāṣadha and Kātyāyana. Aryans used special vehicles to transport the noble warrior's armaments and military chariots to the battlefield – and this is the third function of the cart in daily life in times of peace.

6. Once again: Is something like 'linguistic archaeology' or 'linguistic palaeontology' possible at all? Even the most desperate optimists have to recognize how strongly some attempts to reconstruct the 'Indo-European *Ur-heimat*' have somewhat discredited the whole discipline. Comparative maps of the various reconstructed 'Proto-homelands' show huge discrepancies and can serve, for the time being, only to confirm the hilarious 'law' formulated by the American linguist THEETOR – that 'the borders of the Proto-Indo-European homeland are there where the borders of linguistic competence of the Indo-Europeanist are, who tries to reconstruct it'!

We have forsure to constrain our heuristic efforts on the data the texts themselves grant to us – not ignoring the fact that in the Indo-Iranian context we are dealing with highly stylized ritual poetry, which is not meant as a manual on 'Wörter und Sachen' but gives us an account on realities only from a meta-perspective, from which the *realia* have then carefully to be discerned and distinguished – especially in the case of the Indo-Iranian chariot and wagon. We should be modest in our expectations – but consequent in our detailed exploration of the texts, for in the case of Ancient India and Iran, we can rely on our sources, with all the specific constraints described so far. The discussion on horses and chariots, re-opened by Wilhelm RAU and continued in recent times by Harry FALK, Rüdiger SCHMITT and Peter RAULWING showed how possible the positive answer to this question could be – and how, every now and then, philology-based archaeology manages to discover the real objects corresponding to the concepts delivered to us in the texts.

BIBLIOGRAPHICAL REFERENCES AND ABBREVIATIONS

AGRAWALA 1963   *India as known to Pāṇini.* [*A study of the cultural material in the Ashtādhyāyī*]. Lucknow [1]1953. Varanasi [2]1963.

AiGr I-III   WACKERNAGEL, Jacob: *Altindische Grammatik.* Göttingen. Band I: *Lautlehre.* 1896 [new ed.: RENOU, Louis: *Introduction générale. Nouvelle édition du texte paru en 1896 au tome I.* 1957]. Band II, Teil 1: *Einleitung zur Wortlehre. Nominalkomposition.* 1905. Band II, Teil 2: *Die Nominalsuffixe.* Von Albert DEBRUNNER. 1954. Band III [Jacob WACKERNAGEL und Albert DEBRUNNER]: *Nominalflexion – Zahlwort – Pronomen.* 1930. [IV.] *Register...* Von Richard HAUSCHILD. 1964.

ALRAM 1986   ALRAM, Michael: *Materialgrundlagen zu den iranischen Personennamen auf antiken Münzen: Nomina propria Iranica in nummis.* (= *Iranisches Personennamenbuch,* Band IV). Wien 1986.

AMMER 1939   AMMER, Karl: *Die Vergleiche im Ṛgveda.* Als Dissertation zur Erlangung des Doktorgrades der Philosophischen Fakultät der Universität Wien vorgelegt. Wien 1939 [unpublished; Sign. 15.193 of the library of the Institute of South Asian Studies, University of Vienna].

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[84] Cf. the lists of VAN VELZE 1938: 51 ("The material for the Sacrifice"), and 94f. ("All sorts of domestic utensils"); HILKA 1910: 143 ("Einzelne Concreta als Personennamen"); to them, we can cautiously add the Vedic name *ambaríṣa-* (with a patronymicon *vārṣāgirá-*) – attested in RV 1,100,17 and later on in the epics (PNRV 2.1.24) –, which corresponds to an appellative TS. *ambaríṣa-*, m./n. 'frying pan'. The meaning is questioned by PNRV, p. 10f.; however, one needs only to have a look at the lists of names of the semantic range for 'pot', 'pan', 'sieve' or 'spoon' (cf. the lit. in the beginning of this footnote, esp. VAN VELZE 1938: 94, "Earthenware, pans, water-jugs etc.") to see that such items, unlike the clowns' names in Shakespeare's *Midsummer-Night's Dream* (Flute, Bottom and Snug), are no simple nicknames but have formed a constant part of the Indian onomasticon since the earliest period.

[85] Cf. RAU 1983: 26 with fn. 52.

BASU 1969   BASU, Jogiraj, *India of the age of the Brāhmaṇas*. Calcutta 1969.

BECK – GEUENICH – STEUER   *Reallexikon der Germanischen Altertumskunde*. Von Johannes HOOPS. Zweite [...] Auflage mit [...]
(eds.) 2000   unter [...] redaktioneller Leitung von [...] Rosemarie MÜLLER [...] Heinrich BECK, [...] Dieter
                                   GEUENICH, [...] Heiko STEUER. Fünfzehnter Band: *Hobel – Iznik*. Berlin – New York 2000.

BERGAIGNE 1–4   BERGAIGNE, Abel: *La religion védique*. Tome I, Paris 1878. Tome II, Paris 1883. Tome III, Paris
                                   1883. Tome IV, Paris. [Repr. Paris (Bibliothèque de l'Ècole Pratique des Hautes Études / IVᵉ
                                   Section – Sciences Historiques et Philologiques; 36; 53–55)].

BRUCKER 1980   BRUCKER, Egon, *Die spätvedische Kulturepoche nach den Quellen der Śrauta-, Gr̥hya- und
                                   Dharmasūtras. Der Siedlungsraum*. Wiesbaden 1980.

CALAND 1919   CALAND, Willem: *Das Jaiminīya-Brāhmaṇa in Auswahl. Text, Übersetzung, Indices*.
                                   (Verhandelingen der Koninklijke Nederlandse Akademie van Wetenschappen. Afd.
                                   Letterkunde. Deel I – Nieuwe reeks. Deel XIX, No. 4). Amsterdam 1919.

CALAND 1990   CALAND, Willem: *Kleine Schriften*. Herausgegeben von Michael WITZEL. (Glasenapp-Stiftung,
                                   Band 27). Stuttgart 1990.

COOMARASWAMY 1942   COOMARASWAMY, A. K.: 'Horse-Riding in the R̥gveda and the Atharvaveda'. JAOS 62, 1942,
                                   139–140.

COSTA 1998   COSTA, Gabriele: *Le origini della lingua poetica indeuropea. Voce, coscienza e transizione
                                   neolitica*. (Studi / Accademia Toscana di Scienze e Lettere "La Colombaria", 164). Firenze 1998.

DANDEKAR 1946–85   DANDEKAR, R. N.: *Vedic Bibliography*. Vol. I, Bombay 1946. Vol. II, Poona 1961. Vol. III, Poona
                                   1973. Vol. IV, Poona 1985.

DUCHESNE-GUILLEMIN 1936   DUCHESNE-GUILLEMIN, Jacques: *Études de morphologie iranienne*. Vol. I: *Les composés dans
                                   l'Avesta*. (Bibliothèque de la Faculté de philosophie et lettres de l'Université de Liége 74).
                                   Paris – Liége 1936.

DUMONT 1927   DUMONT, Paul-Émile: *L'Aśvamedha. Description du sacrifice solennel du cheval dans le culte
                                   védique*. Louvain 1927.

DUMONT 1948   DUMONT, Paul-Émile: 'The Horse-Sacrifice in the Taittirīya-Brāhmaṇa. The Eighth and Ninth
                                   Prapāṭhakas of the Third Kāṇḍa of the Taittirīya-Brāhmaṇa with Translation'. Proceedings of the
                                   American Philosophical Society 92, 1948, 447–503.

EDGERTON 1919   EDGERTON, F., 'The Metaphor of the Car in the Rigvedic Ritual. Studies in the Veda, III.'
                                   American Journal of Philology 40, 1919, 175–193.

EINOO 1988   EINOO, Shingo: *Die Câturmâsya oder die altindischen Tertialopfer*. (Monumenta Serindica 18).
                                   Tokyo 1988.

ELIZARENKOVA 1999   ELIZARENKOVA, Tat'jana: *Slova i vešči v Rigvede*. Moskva 1999.

ESNOUIL 1986   ESNOUIL, Anne Marie: 'Le Cheval dans le monde indien'. Études indo-europeennes 18, 1986, 15-20.

EVP   RENOU, Louis: *Études védiques et pāṇinéennes*. I–XVIII, Paris 1955–1969 (quoted according to
                                   the volume concerned, e.g. EVP 5).

EWAia. 1–3   MAYRHOFER, Manfred: *Etymologisches Wörterbuch des Altindoarischen*. (Indogermanische Biblio-
                                   thek. II. Reihe: Wörterbücher). I: *A-D*, Heidelberg [1986–]1992. II: *N-H*, Heidelberg [1992–]1996.
                                   III: *Die jüngere Sprache*. [1996–]2001.

FALK 1994   FALK, Harry: 'Das Reitpferd im Vedischen Indien'. In: HÄNSEL – ZIMMER (eds.) 1994: 91–101.

FICK 1874   FICK, August: *Die griechischen Personennamen nach ihrer Bildung erklärt* [...]. Göttingen 1874.

FORSSMAN – PLATH (eds.)   *Indoarisch, Iranisch und die Indogermanistik*. Arbeitstagung der Indogermanischen Gesellschaft
2000   vom 2. bis 5. Oktober 1997 in Erlangen. Hrsg. von Bernhard FORSSMAN und Robert PLATH.
                                   Wiesbaden 2000.

FRITZ 2006   FRITZ, Sonja: *Die ossetischen Personennamen*. (= *Iranisches Personennamenbuch*, Band III,
                                   Faszikel 3). (SbÖAW 746 / Iranische Onomastik 2). Wien 2006.

GELDNER 1951–57   GELDNER, Karl Friedrich: *Der Rig-Veda*. Aus dem Sanskrit in Deutsche übersetzt und mit einem
                                   laufenden Kommentar versehen. Cambridge, Mass. – London – Wiesbaden. Band I-III. (Harvard
                                   Oriental Series 33–36). 1951. Band IV: *Namen- und Sachregister zur Übersetzung, dazu
                                   Nachträge und Verbesserungen*. Aus dem Nachlaß des Übersetzers herausgegeben, geordnet und
                                   ergänzt von JOHANNES NOBEL. 1957.

GHATAGE et al. (ed.) 1976 ff.   GHATAGE, A. M. (General Editor) – JOSHI, S. D. – RANADI, H. G. et al (eds.): *An Encyclopaedic
                                   Dictionary of Sanskrit on Historical Principles*. Vol. I–VI–. Poona 1976 ff. –

GIGNOUX 1986   GIGNOUX, Philippe: *Noms propres sassanides en moyen-perse épigraphique*. (= *Iranisches
                                   Personennamenbuch*, Band II, Faszikel 2). 1986.

GIGNOUX 2003   GIGNOUX, Philippe: *Noms propres sassanides en moyen-perse épigraphique*. Supplément (1986–
                                   2001). (= *Iranisches Personennamenbuch*, Band II, Faszikel 3). 2003.

GONDA 1949   GONDA, Jan: *Remarks on Similes in Sanskrit Literature*. Leiden 1949.

GONDA 1959   GONDA, Jan: *Epithets in the R̥gveda*. (Disputationes Rheno-Traiectinae 4). 's-Gravenhage 1959.

GONDA 1965   GONDA, Jan: *Change and Continuity in Indian Religion*. (Disputationes Rheno-Traiectinae 9). 's-Gravenhage 1965. [Reprint: New Delhi 1997].

GONDA 1968   GONDA, Jan: 'Inverted and abbreviated compounds in Sanskrit'. In: HEESTERMAN, J. C. – SCHOKKER, G. H. – SUBRAMONIAM, V. I. (eds.): *Pratidānam. Indian, Iranian and Indo-European Studies Presented to Franciscus Bernardus Jacobus Kuiper on his Sixtieth Birthday*. (Janua linguarum. [...] Series maior 34). The Hague – Paris 1968 [= GONDA 1975b–1991: 2,43ff.].

GONDA 1975a   GONDA, JAN: *Vedic Literature (Saṃhitās and Brāhmaṇas)*. (= *History of Indian Literature* 1,1). Wiesbaden 1975.

GONDA 1975b-1991   GONDA, Jan: *Selected Studies*. Presented to the author by the staff of the Oriental Institute, Utrecht University, on the occasion of his 70th birthday. Volume I-V. Leiden 1975–1991.

GONDA 1977   GONDA, JAN: *The ritual sūtras*. (= *History of Indian Literature* 1,2). Wiesbaden 1977

GONDA 1987   GONDA, Jan: *Rice and barley offerings in the Veda*. (Orientalia Rheno-Traiectina 31). Leiden 1987

GOPAL 1959   GOPAL, Ram, *India of Vedic Kalpasūtras*. Delhi 1959.

GRASSMANN 1873   GRASSMANN, Hermann: *Wörterbuch zum Rig-Veda [...]*. Leipzig 1873. 4., unveränderte Aufl. Wiesbaden 1964. 6. Ausg. überarbeitet und ergänzt von Maria KOZIANKA. Wiesbaden 1996.

GUBLER 1903   GUBLER, Theophil: *Die Patronymica im Alt-Indischen*. Dissertation Basel. Göttingen 1903.

HÄNSEL – ZIMMER (eds.)   *Die Indogermanen und das Pferd. Akten des Internationalen interdisziplinären Kolloquiums Freie*
1994   *Universität Berlin, 1.-3. Juli 1992. [...] Bernfried Schlerath zum 70. Geburtstag gewidmet*. Herausgegeben von Bernhard HÄNSEL und Stefan ZIMMER unter Mitwirkung von Marie-Luise DUNKELMANN und Almut HINTZE. Budapest 1994

HÄUSLER 1981   HÄUSLER, Alexander: 'Zur ältesten Geschichte von Rad und Wagen im nordpontischen Raum'. Ethnographisch-archäologische Zeitschrift 22, 1981, 581–647.

HÄUSLER 2000   HÄUSLER, Alexander: '[Indogermanische Altertumskunde.] II. Archäologisches'. In: BECK – GEUENICH – STEUER (eds.) 2000: 402–408.

HEIMANN 1931   HEIMANN, Betty: 'Zur indischen Namengebung'. In: *Studia Indo-Iranica. Ehrengabe für Wilhelm Geiger zur Vollendung des 75. Lebensjahres*. Hrsg. von Walter WÜST. Leipzig 1931, 139–155.

HILKA 1910   HILKA, Alfons: *Beiträge zur Kenntnis der indischen Namengebung. Die altindischen Personennamen*. (Indische Forschungen 1). Breslau 1910.

HILLEBRANDT 1897   HILLEBRANDT, Alfred: *Ritual-Literatur. Vedische Opfer und Zauber*. (= *Grundriss der Indo-Arischen Philologie und Altertumskunde* 3,2). Strassburg 1897.

HILLEBRANDT 1927–29 HILLEBRANDT, Alfred: *Vedische Mythologie*, von [...] Zweite veränderte Auflage in zwei Bänden. Breslau. I, 1927. II, 1929.

HINZ 1975   HINZ, Walther: *Altiranisches Sprachgut der Nebenüberlieferungen* (Göttinger Orientforschungen, III. Reihe: Iranica, 3), Wiesbaden 1975.

HOFFMANN 1975–76; 1992   HOFFMANN, Karl: *Aufsätze zur Indoiranistik*. Bd. 1–2, hrsg. von Johanna NARTEN. Wiesbaden 1975–1976. Bd. 3, hrsg. von Sonja GLAUCH – Robert PLATH – Sabine ZIEGLER. Wiesbaden 1992.

HORSCH 1957   HORSCH, Paul: 'The Wheel: an Indian Pattern of World Interpretation.' Sino-Indian Studies 5,3.4, 1957 (= *Festschrift Liebenthal*), 62–79.

HUMBACH 1977   HUMBACH, Helmut: 'Awestisch *raθa-* 'Wagen' und seine Ableitungen *raiθiia* und *raiθī*'. Münchener Studien zur Sprachwissenschaft 36, 1977, 49–52.

HUYSE 1990   HUYSE, Philip: *Iranische Namen in den griechischen Dokumenten Ägyptens*. (= *Iranisches Personennamenbuch*, Band V, Faszikel 6a). Wien 1990.

IPNB   *Iranisches Personennamenbuch* (s. footnote 6); IPNB 1 = MAYRHOFER 1977a.

JUSTI 1895   JUSTI, Ferdinand: *Iranisches Namenbuch*, Marburg 1895.

KASHIKAR 1968   KASHIKAR, C. G.: *A Survey of the Śrautasūtras* (= Journal of the University of Bombay, N.S. 35.2, 1968, 1–188). Bombay 1968.

KEITH 1914   KEITH, Arthur Berriedale: *The Veda of the Black Yajus School entitled Taittirīya Saṃhitā*. Translated from the original Sanskrit prose and verse. Part 1: *Kāṇḍas I-III*. (Harvard Oriental Series 18). Part 2: *Kāṇḍas IV-VII* (Harvard Oriental Series 19). Cambridge, Massachusetts 1914.

KLAUS 1989   KLAUS, Konrad: *Die Wasserfahrzeuge im vedischen Indien*. (Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse / Akademie der Wissenschaften und der Literatur [Mainz]; Jg. 1989, Nr. 13). Stuttgart 1989

KLAUS 2000   KLAUS, Konrad: 'Zu den Śrautasūtras'. In: FORSSMAN – PLATH (eds.) 2000: 177–190.

KLINGENSCHMITT 1992 KLINGENSCHMITT, Gert: 'Die lateinische Nominalflexion'. In: PANAGL, Oswald – KRISCH, Thomas (eds.): *Latein und Indogermanisch. Akten des Kolloquiums der Indogermanischen Gesellschaft, Salzburg, 23.-26. September 1986*. (IBS 64). Innsbruck 1992, 89–135.

KOTWAL – BOYD 1991   *A Persian Offering. The Yasna: A Zoroastrian High Liturgy*. Dastur Firoze M. KOTWAL and James W. BOYD. (Studia Iranica – Cahier 8). Paris 1991.

Kʀɪᴄᴋ 1982	Kʀɪᴄᴋ, Hᴇʀᴛʜᴀ (†): *Das Ritual der Feuergründung (Agnyādheya)*. Herausgegeben von Gerhard Oʙᴇʀʜᴀᴍᴍᴇʀ. [Mit Indizes von Chlodwig Wᴇʀʙᴀ]. (SbÖAW 399: Veröffentlichungen der Kommission für Sprachen und Kulturen Südasiens 16). Wien 1982
Kᴜɪᴘᴇʀ 1991	Kᴜɪᴘᴇʀ, F. B. J.: *Aryans in the Rigveda*. (Leiden Studies in Indo-European 1). Amsterdam – Atlanta 1991.
Kᴜɴᴢᴇ 1998	Kᴜɴᴢᴇ, Konrad: *dtv-Atlas Namenkunde. Vor- und Familiennamen im deutschen Sprachgebiet*. München 1998.
Kᴡᴇʟʟᴀ 1973	Kᴡᴇʟʟᴀ, P.: *Flußüberschreitung im Rigveda. RV III.33 und Verwandtes*. Wiesbaden 1973.
Lᴀssᴇɴ 1867	Lᴀssᴇɴ, Christian: *Indische Altertumskunde*. I. Band. Leipzig – London ²1867.
MᴀᴄDᴏɴᴇʟʟ 1897	MᴀᴄDᴏɴᴇʟʟ, A[rthur]. A[nthony].: *Vedic Mythology*. (= *Grundriss der Indo-Arischen Philologie und Altertumskunde* 3,1A). Strassburg 1897.
MᴀᴄDᴏɴᴇʟʟ 1899	MᴀᴄDᴏɴᴇʟʟ, Arthur A[nthony].: *A History of Sanskrit Literature*. Oxford 1899. [Reprint: New Delhi ³1972].
MᴀᴄDᴏɴᴇʟʟ – Kᴇɪᴛʜ 1912	MᴀᴄDᴏɴᴇʟʟ, Arthur Anthony – Kᴇɪᴛʜ, Arthur Berriedale: *Vedic Index of Names and Subjects*. (Indian Text Series). I-II. Oxford 1912. [Reprint: Delhi – Varanasi – Patna 1967].
Mᴀʟʟᴏʀʏ – Aᴅᴀᴍs (eds.) 1997	Mᴀʟʟᴏʀʏ, James P. and Aᴅᴀᴍs, Douglas Quincy (eds.): *Encyclopedia of Indo-European Culture*. Chicago – London 1997.
Mᴀʏʀʜᴏғᴇʀ 1973	Manfred Mᴀʏʀʜᴏғᴇʀ: *Onomastica Persepolitana. Das altiranische Namengut der Persepolis-Täfelchen*. Unter Mitarbeit von János Hᴀʀᴍᴀᴛᴛᴀ, Walther Hɪɴᴢ, Rüdiger Sᴄʜᴍɪᴛᴛ und Jutta Sᴇɪғᴇʀᴛ. (SbÖAW. Phil.-hist. Kl., 286. Band: Veröffentlichungen der Iranischen Kommission 1). Wien 1973.
Mᴀʏʀʜᴏғᴇʀ 1977a	Mᴀʏʀʜᴏғᴇʀ, Manfred: *Die altiranischen Namen*. (= *Iranisches Personennamenbuch*, Band I, Faszikel 1–3). (Österreichische Akademie der Wissenschaften. Phil.-hist. Klasse: Sonderpublikation der Iranischen Kommission [1]). Wien 1977.
Mᴀʏʀʜᴏғᴇʀ 1977b	Mᴀʏʀʜᴏғᴇʀ, Manfred: *Zum Namengut des Avesta*. (Sitzungsberichte der Österreichischen Akademie der Wissenschaften. Phil.-hist. Klasse 308,5). Wien 1977.
Mᴀʏʀʜᴏғᴇʀ 1979–1996	Mᴀʏʀʜᴏғᴇʀ, Manfred: *Ausgewählte Kleine Schriften*. Hrsg. von Sigrid Dᴇɢᴇʀ-Jᴀʟᴋᴏᴛᴢʏ und Rüdiger Sᴄʜᴍɪᴛᴛ. [Band I:] Wiesbaden 1979. Band II: *Festgabe für Manfred Mayrhofer zum 70. Geburtstag*. Hrsg. von Rüdiger Sᴄʜᴍɪᴛᴛ. Wiesbaden 1996 [pp. 237–484].
Mᴀʏʀʜᴏғᴇʀ 2003	Mᴀʏʀʜᴏғᴇʀ, Manfred: *Die Personennamen in der Ṛgveda-Saṁhitā. Sicheres und Zweifelhaftes*. (SbBAW. Phil.-hist. Klasse 2002, Heft 3). München 2003.
Mᴀʏʀʜᴏғᴇʀ 2006	Mᴀʏʀʜᴏғᴇʀ, Manfred: *Einiges zu den Skythen, ihrer Sprache, ihrem Nachleben*. (SbÖAW. Phil.-hist. Klasse, 742. Band: Veröffentlichungen zur Iranistik 36). Wien 2006.
MᴄCʀɪɴᴅʟᴇ 1926	MᴄCʀɪɴᴅʟᴇ, J. W.: *Ancient India as Described by Megasthenes and Arrian*. Calcutta ²1926.
Mᴇɪᴅ 1989	Mᴇɪᴅ, Wolfgang: *Archäologie und Sprachwissenschaft. Kritisches zu neueren Hypothesen der Ausbreitung der Indogermanen*. Innsbruck 1989.
Mᴇɪᴅ 1994	Mᴇɪᴅ, Wolfgang: 'Die Terminologie von Pferd und Wagen im Indogermanischen'. In: Hᴀ̈ɴsᴇʟ – Zɪᴍᴍᴇʀ (eds.) 1994: 53–65.
Mʏʟɪᴜs 1995	Mʏʟɪᴜs, Klaus: *Wörterbuch des altindischen Rituals. Mit einer Übersicht über das altindische Opferritual und einem Plan der Opferstätte*. Wichtrach 1995.
Nᴇᴜᴍᴀɴɴ 1991a	Nᴇᴜᴍᴀɴɴ, Günter: 'Zwischen Mykene und Homer. Namenkundliche Beobachtungen erhellen das „Dark Age"'. In: *La transizione dal Miceneo all'Alto arcaismo. Dal palazzo alla città. Atti del Convegno Internazionale Roma, 14–19 marzo 1988*. A cura di D. Mᴜsᴛɪ, A. Sᴀᴄᴄᴏɴɪ, L. Rᴏᴄᴄʜᴇᴛᴛɪ, M. Rᴏᴄᴄʜɪ, E. Sᴄᴀғᴀ, L. Sᴘᴏʀᴛɪᴇʟʟᴏ, M. E. Gɪᴀɴɴᴏᴛᴛᴀ. (Monografie Scientifiche. Serie Scienze Umane e Sociali). Roma 1991.
Nᴇᴜᴍᴀɴɴ 1991b	Nᴇᴜᴍᴀɴɴ, Günter: '*Die homerischen Personennamen. Ihre Position im Rahmen der Entwicklung des griechischen Namenschatzes*'. In: *Zweihundert Jahre Homer-Forschung. Rückblick und Ausblick*. Herausgegeben von Joachim Lᴀᴛᴀᴄᴢ. (Colloquium Rauricum 2). Stuttgart – Leipzig 1991..
Nᴇᴜᴍᴀɴɴ 1994	Nᴇᴜᴍᴀɴɴ, Günter: 'Wertvorstellungen und Ideologie in den Personennamen der mykenischen Griechen'. Anzeiger der Österreichischen Akademie der Wissenschaften. Phil.-hist. Klasse, 131 (= Veröffentlichungen der Mykenischen Kommission 15), 1994, 127–166.
Oʙᴇʀʟɪᴇs 1998	Oʙᴇʀʟɪᴇs, Thomas: *Die Religion des Ṛgveda*. Erster Teil: *Das religiöse System des Ṛgveda*. (Publications of the De Nobili Research Library 26). Wien 1998.
Oʙᴇʀʟɪᴇs 1999	Oʙᴇʀʟɪᴇs, Thomas: *Die Religion des Ṛgveda*. Zweiter Teil: *Kompositionsanalyse der Soma-Hymnen des Ṛgveda*. (Publications of the De Nobili Research Library 27). Wien 1999.
Oᴇᴛᴛɪɴɢᴇʀ 1994	Oᴇᴛᴛɪɴɢᴇʀ, Norbert: 'Pferd und Wagen im Altiranischen und Anatolischen. Zur Frage ererbter Termini'. In: Hᴀ̈ɴsᴇʟ – Zɪᴍᴍᴇʀ (eds.) 1994: 67–76.

OLDENBERG 1886–1892	OLDENBERG, Hermann: *The Gṛihya Sûtras. Rules of Vedic Domestic Ceremonies.* Translated by Hermann OLDENBERG. Oxford. *Part I.* (The Sacred Books of the East 29). 1886. *Part III.* (The Sacred Books of the East 30). 1892
OLDENBERG 1917	OLDENBERG, Hermann: *Die Religion des Veda.* [¹1894]. 2. Aufl. Stuttgart – Berlin 1917. (Reprint: Stuttgart [1983]).
PANAINO 1990	PANAINO, Antonio: *Tištriya.* Part 1: *The Avestan Hymn to Sirius.* (Serie Orientale Roma 68,1). Roma 1990.
PIGGOT 1979	PIGGOT, Stuart: 'The first wagons and carts: twenty-five years later'. University of London Bulletin 16, 1979, 3–17.
PINAULT 2006	PINAULT, Georges-Jean: 'Compétition poétique et poétique de la compétition'. In : PINAULT – PETIT (eds.) 2006 : 367–411.
PINAULT – PETIT (eds.) 2006	*La langue poétique indo-européenne. Actes du Colloque de travail de la Société des Études Indo-Européennes (Indogermanische Gesellschaft/Society for Indo-European Studies), Paris, 22–24 octobre 2003,* édités par Georges-Jean PINAULT et Daniel PETIT. (Collection linguistique, publiée par la Société de Linguistique de Paris, 91). Leuven – Paris 2006.
PLATH 1992	PLATH, Robert: 'Altindisch *havanasyád-*'. Münchener Studien zur Sprachwissenschaft 53, 1992, 215–228.
PLATH 1994a	PLATH, Robert: 'Pferd und Wagen im Mykenischen und bei Homer'. In: HÄNSEL – ZIMMER (eds.) 1994: 103–114.
PLATH 1994b	PLATH, Robert: *Der Streitwagen und seine Teile im frühen Griechischen. Sprachliche Untersuchungen zu den mykenischen Texten und zum homerischen Epos.* (Erlanger Beiträge zur Sprache, Literatur und Kunst 76). Nürnberg 1994.
PNRV	= MAYRHOFER 2003.
PW	*Sanskrit-Wörterbuch,* herausgegeben von der Kaiserlichen Akademie der Wissenschaften, bearbeitet von Otto BÖHTLINGK und Rudolph ROTH. I-VII. St. Petersburg 1855-1875. [Reprint: Kyoto 1976. Reprint: Delhi 1990].
pw	*Sanskrit-Wörterbuch in kürzerer Fassung,* bearbeitet von Otto BÖHTLINGK. I-VII. St. Petersburg 1879–1889. Reprint: Graz 1959; Kyoto 1991; Delhi 1991; 1998.
RAGHU VIRA 1934	RAGHU VIRA: 'Implements and Vessels Used in Vedic Sacrifice'. Journal of the Royal Asiatic Society 1934, 283–305.
RAU 1957	RAU, Wilhelm: *Staat und Gesellschaft im alten Indien.* Nach den Brāhmaṇa-Texten dargestellt, von [...]. Wiesbaden 1957.
RAU 1971	RAU, Wilhelm: *Weben und Flechten im vedischen Indien.* (Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse / Akademie der Wissenschaften und der Literatur [Mainz]; Jg. 1970, Nr. 11). Wiesbaden 1971.
RAU 1972	RAU, Wilhelm: *Töpferei und Tongeschirr im vedischen Indien.* (Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse / Akademie der Wissenschaften und der Literatur [Mainz]; Jg. 1972, Nr. 10). Wiesbaden 1972.
RAU 1974	RAU, Wilhelm: *Metalle und Metallgeräte im vedischen Indien.* (Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse / Akademie der Wissenschaften und der Literatur [Mainz]; Jg. 1973, Nr. 8). Mainz – Wiesbaden 1974.
RAU 1977	RAU, Wilhelm: 'Ist vedische Archäologie möglich?'. In: *XIX. Deutscher Orientalistentag vom 28. September bis 4. Oktober 1975 in Freiburg im Breisgau. Vorträge.* Hrsg. von Wolfgang VOIGT. (ZDMG-Supplement 3,1). Wiesbaden 1977, LXXXIII–C.
RAU 1983	RAU, Wilhelm: *Zur vedischen Altertumskunde.* (Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse / Akademie der Wissenschaften und der Literatur [Mainz]; Jg. 1983, Nr. 1). Wiesbaden 1983.
RAULWING 1995	Review of HÄNSEL – ZIMMER (eds.) 1994. Kratylos 40, 1995, 109–118.
RAULWING 1998	RAULWING, Peter: 'Pferd, Wagen und Indogermanen. Grundlagen, Probleme und Methoden der Streitwagenforschung'. In: *Sprache und Kultur der Indogermanen. Akten der X. Fachtagung der Indogermanischen Gesellschaft, Innsbruck, 22.–28. September 1996.* Herausgegeben von Wolfgang MEID. (IBS). Innsbruck 1998, 523–546.
RAULWING 2000	RAULWING, Peter: *Horses, Chariots and Indo-Europeans.* Foundations and Methods of Chariotry Research from the Viewpoint of Comparative Indo-European Linguistics. (Archaeolingua. Series Minor, 13). Budapest 2000.
RENOU 1931	RENOU, Louis: *Bibliographie védique.* Paris 1931.
RENOU 1939	RENOU, Louis: 'La maison védique'. Journal Asiatique 239, 1939, 481–504. [= RENOU 1997: 2,819–842].

RENOU 1950/1997   RENOU, Louis: *The Civilization in Ancient India*. Translated from the French by Philip SPRATT. New Delhi ¹1987 (Repr. 1997). [Orig. publication: *La civilisation de l'Inde ancienne d'après les textes sanskrits*. (Bibliothèque de Philosophie Scientifique). Paris 1950. (Repr. Paris 1981)].

RENOU 1954   RENOU, Louis: *Vocabulaire du rituel védique*. (Collection de vocabulaires techniques du sanskrit 1). Paris 1954.

RENOU 1997   RENOU, Louis: *Choix d'études indiennes*. Réuniés par Nalini BALBIR et Georges-Jean PINAULT. Tome 1–2. (EFEO / Collection Réimpressions 9). Paris 1997.

RENOU – FILLIOZAT 1947–49   *L'Inde classique. Manuel des études indiennes*, par Louis RENOU et Jean FILLIOZAT (avec le concours de Pierre MEILE, Anne-Marie ESNOUIL, Lilian SILBURN). Tome I. Paris 1947–1949. [Repr. Paris 1985].

RISCH 1945   RISCH, Ernst: 'Griechische Komposita vom Typus μεσο-νύκτιος und ὁμο-γάστριος'. Museum Helveticum 2,1, 1945, 15–27.

SADOVSKI 2000   SADOVSKI, Velizar: 'Die exozentrischen Zusammensetzungen mit Vorderglied Präverb/Präposition im Ṛgveda: Entheos-Komposita und präpositionale Rektionskomposita'. In: FORSSMAN – PLATH (eds.) 2000: 455–473.

SADOVSKI 2004   SADOVSKI, Velizar: 'Indoiranische Komposita und freie Syntagmata mit prädikativischem bzw. partitivischem Attributionsverhältnis der Elemente'. In: *Indo-European Word Formation: Proceedings of the Conference held at the University of Copenhagen, October 20ᵗʰ – 22ⁿᵈ 2000*. Ed. by James CLACKSON and Birgit Anette OLSEN. Copenhagen 2004, 134–167.

SADOVSKI 2006   SADOVSKI, Velizar: 'Morphology and Semantics of Names and Epithets in Indo-Iranian, I: On Morphological Structures in the System of Personal Names'. In: *Proceedings of the 5th Conference of the Societas Iranologica Europæa*. Vol. II. Edited by Antonio PANAINO and Riccardo ZIPOLI, with the assistance of Gian Pietro BASELLO and Sara CIRCASSIA. Milano 2006, 541–555.

SADOVSKI 2007   SADOVSKI, Velizar: *Epitheta und Götternamen im älteren Indo-Iranischen. Die hymnischen Namenkataloge im Veda und im Avesta (Stilistica Indo-Iranica, I.)*. Fascicle II of: PANAINO, Antonio – SADOVSKI, Velizar: *Disputationes Iranologicae Vindobonenses, I.* (Sitzungsberichte der Österreichischen Akademie der Wissenschaften. Phil.-hist. Klasse, 764. Band: Veröffentlichungen zur Iranistik 41). Wien 2007, 37–74, with three registers [p. 75–108].

SADOVSKI 2009   SADOVSKI, Velizar: *Untersuchungen zu Sprache und Stil des ältesten Indo-Iranischen (Veda und Avesta). (Stilistica Indo-Iranica, II.)*. (Sitzungsberichte der Österreichischen Akademie der Wissenschaften. Phil.-hist. Klasse: Veröffentlichungen zur Iranistik, Nr. 50). Wien. (to be printed in 2009).

SALETORE 1973   SALETORE, R. N.: *Early Indian economic history*. London – Totowa 1973.

SCHINDLER 1997   SCHINDLER, Jochem: *Zur internen Syntax der indogermanischen Nominalkomposita*. In: *Berthold Delbrück y la sintaxis indoeuropea hoy*. Actas del Coloquio de la Indogermanische Gesellschaft Madrid, 21–24 de septiembre de 1994, ed. por Emilio CRESPO y José Luis GARCÍA RAMÓN. Madrid – Wiesbaden 1997, 537–540.

SCHLINGLOFF 1969   SCHLINGLOFF, Dieter: *Die altindische Stadt. Eine vergleichende Untersuchung.* (Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse / Akademie der Wissenschaften und der Literatur [Mainz]; Jg. 1969, 5). Mainz 1969 [1970].

SCHMITT 1967   SCHMITT, Rüdiger: *Dichtung und Dichtersprache in indogermanischer Zeit*. Wiesbaden 1967.

SCHMITT 1978   SCHMITT, Rüdiger: *Die Iranier-Namen bei Aischylos*. (SbÖAW. Phil.-hist. Kl., 337. Band: Veröffentlichungen der Iranischen Kommission 6). Wien 1978.

SCHMITT 1982   SCHMITT, Rüdiger: *Iranische Namen in den indogermanischen Sprachen Kleinasiens*: *Lykisch, Lydisch, Phrygisch*. (= Iranisches Personennamenbuch, Band V, Faszikel 4). Wien 1982.

SCHMITT 1995   Rez. von PLATH 1994b. *Indogermanische Forschungen* 100, 1995, 284–287.

SCHMITT 2000a   SCHMITT, Rüdiger: *Selected Onomastic Writings*. Edited by Winfried BREIDBACH and Philip HUYSE. (Persian Studies Series 20). New York 2000.

SCHMITT 2000b   SCHMITT, Rüdiger: 'Indogermanische Altertumskunde. I. Sprachliches'. In: BECK – GEUENICH – STEUER (eds.) 2000: 384–402.

SCHMITT 2002   SCHMITT, Rüdiger: *Die iranischen und Iranier-Namen in den Schriften Xenophons. (Iranica Graeca Vetustiora. II)*. (SbÖAW. Phil.-hist. Kl., 692. Band: Veröffentlichungen zur Iranistik 29). Wien 2002.

SCHMITT 2003   SCHMITT, Rüdiger: 'Onomastische Bemerkungen zu der Namenliste des *Fravardīn Yašt*'. In: CERETI, Carlo – MAGGI, Mauro – PROVASI, Elio (eds.): *Religious themes and texts of pre-Islamic Iran and Central Asia. Studies in honour of Professor Gherardo Gnoli* [...]. Wiesbaden 2003, 363–364.

SCHMITT 2006a   SCHMITT, Rüdiger: *Iranische Anthroponyme in den erhaltenen Resten von Ktesias' Werk. (Iranica Graeca Vetustiora. III)*. (SbÖAW. Phil.-hist. Kl., 736. Band: Veröffentlichungen zur Iranistik 33). Wien 2006.

SCHMITT 2006b	SCHMITT, Rüdiger: *Das Iranische Personennamenbuch: Rückschau, Vorschau, Rundschau.* (SbÖAW. Phil.-hist. Klasse, 744. Band: Iranische Onomastik 1). Wien 2006.
SCHRAMM 1957	SCHRAMM, Gottfried: *Namenschatz und Dichtersprache. Studien zu den zweigliedrigen Personennamen der Germanen.* (Ergänzungshefte zur Zeitschrift für vergleichende Sprachforschung auf dem Gebiet der indogermanischen Sprachen 15). Göttingen 1957.
SCHWAB 1886	SCHWAB, J.: *Das altindische Thieropfer*. Erlangen 1886.
SHARMA 1977	SHARMA, Rajendra Nath: *Culture and Civilization as revealed in the Śrautasūtras*. Delhi 1977.
SOMMER 1948	SOMMER, Ferdinand: *Zur Geschichte der griechischen Nominalkomposita.* (Abhandlungen der Bayerischen Akademie der Wissenschaften. Phil.-hist. Klasse. N.F., Heft 27, 1948). München 1948.
SÖRENSEN 1904–25	SÖRENSEN, Sören: *An Index to the Names in the Mahābhārata.* London 1904–1925. [Reprints Delhi 1963, 1978].
SPARREBOOM 1985	SPARREBOOM, M[arcus].: *Chariots in the Veda.* (Memoirs of the Kern Institute 3). Leiden 1985.
STAAL (ed.) 1983	STAAL, Frits (ed.): *Agni*. Volumes 1–2. Berkeley 1983.
STIETENCRON (ed.) 1992	STIETENCRON, Heinrich von (ed.): *Epic and Purāṇic bibliography* (up to 1985). Annotated and with indexes. Compiled under the chairmanship of Heinrich von STIETENCRON by P. FLAMM, H. v. STIETENCRON, J. L. BROCKINGTON, A. MALINAR, P. SCHREINER, K.-P. GIETZ, A. KOLLMANN, S. DIETRICH, R. SÖHNEN-THIEME, A. S. PFEIFFER et al. Vol. 1: *A-R*. Vol. 2: *S-Z, Indexes*. (Purāṇa Research Publications Tübingen 3,1–2). Wiesbaden 1992.
THITE 1975	THITE, Ganesh Umakant: *Sacrifice in the Brāhmaṇa Texts.* Poona 1975.
TSUJI 1970	TSUJI, Naoshirô: *Existent Yajurveda literature. Philological study of the fundamental sources of the Vedic ritual.* (The Toyo Bunko Ronsô, Series A, 52). Tokyo 1970.
VAN LOHUIZEN-DE LEEUW 1975	VAN LOHUIZEN-DE LEEUW, M.: 'The Contribution of Foreign Nomads to the Culture of the Indian Subcontinent'. In: LESHNIK, L. S. – SONTHEIMER, G.-D. (eds.): *Pastoralists and Nomads in South Asia.* (Schriftenreihe des Südasien-Instituts der Universität Heidelberg). Wiesbaden 1975, 16–29.
VAN VELZE 1938	VAN VELZE, Jacob Antoon: *Names of Persons in Early Sanscrit Literature*. Utrecht 1938.
WITZEL 1987	WITZEL, Michael: 'On the Localisation of Vedic Texts and Schools. (Materials on Vedic Śakhas, 7)'. In: POLLET, Gilbert (ed.): *India and the Ancient World. History, Trade and Culture before A.D. 650. Professor P. H. L. Eggermont Jubilee Volume. Presented on the occasion of his seventieth birthday.* (Orientalia Lovaniensia Analecta 25). Leuven 1987, 173–213.
ZIMMER 1879	ZIMMER, Heinrich: *Altindisches Leben. Die Cultur der vedischen Arier. Nach den Saṁhitā dargestellt*. Berlin 1879.
ZIMMER 1990	ZIMMER, Stefan: *Ursprache, Urvolk und Indogermanisierung. Zur Methode der Indogermanischen Altertumskunde*. Innsbruck 1990.
ZIMMER 2002	ZIMMER, Stefan: 'Tendenzen der Indogermanischen Altertumskunde 1965–2000. I. Teil: Sachkultur'. Kratylos 47, 2002, 1–22.
ZIMMER 2003	ZIMMER, Stefan: 'Tendenzen der Indogermanischen Altertumskunde 1965–2000. II. Teil: Geistige Kultur'. Kratylos 48, 2003, 1–25.

Horse Exports from the Persian Gulf
until the Arrival of the Portuguese

Ralph KAUZ[1]

INTRODUCTION

Ma Huan, participant in some of Zheng He's voyages to the Indian Ocean and thus observer of the different regions visited, enumerates the commodities available in Hormuz, which was the main port of the Persian Gulf in his times, as follows: blue, red and yellow jewels, rubies, emeralds, cats' eyes, and diamonds, large pearls like longan fruits, coral trees and branches, golden amber, amber beads, rosary beads, wax amber, black amber, all kinds of beautiful jade utensils, crystal utensils, ten kinds of embroidered velvet, woollens, scarlet cloth, felt and muslins, foreign blue and red silk-embroidered kerchiefs, etc.[2] One may indeed expect that such commodities caught the eye of a traveller arriving along the shores of Hormuz because they were of major importance for the Indian Ocean trade or, as in the case of the jewels, were of especially high value.

However, when we look at the Chinese end of the Indian Ocean trade network and see what sorts of commodities were appreciated there, other preferences prevail. The most important source of the Ming period (1368–1644) regarding incoming visitors and commodities are the "Veritable Records" (*Ming shilu* 明實錄) in which descriptions of foreign embassies constitute important entries. Here we find seven embassies from Hormuz (which always came together with envoys from other countries) arriving in China in the first half of the 15th century:[3]

1) 28 August 1414 (*Yongle, shi'er nian, ba yue, jiayin*, tribute: horses and local products),
2) 19 November 1416 (*shiyi yue, wuzi*, tribute: horses, rhinoceroses, elephants, and local products),
3) 26 February 1421 (*zheng yue, wuzi*, tribute: horses and local products),
4) 24 October 1423 (*jiu yue, wuxu*, no tribute mentioned),
5) 15 February 1426 (*Xuande yuan nian, chun zheng yue, guimao*, tribute: local products),[4]
6) 14 September 1433 (*run, ba yue, xinhai*, tribute: giraffes (*qilin* 麒麟), elephants, horses, and other products),
7) 9 February 1442 (*Zhengtong, liu nian, shi'er yue, xinyou*, tribute: horses).

The officials who recorded these embassies clearly stressed other tribute items as Ma Huan did: horses were listed in five cases and all the other items brought to China were bluntly summarized as "local products" (*fangwu* 方物). Thus the most estimated commodity which arrived in China from the Persian Gulf area, at least during the early Ming dynasty, was horses.

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[2] This listing is abbreviated, for a complete one see Ma Huan (author), J. V. G. Mills (tr., ed.), *Ying-yai Sheng-lan: The Overall Survey of the Ocean's Shores [1433]*, The Hakluyt Society Extra Series 42 (Cambridge: Cambridge University Press, 1971), pp. 170-171; Ralph Kauz, Roderich Ptak, "Hormuz in Yuan and Ming Sources", *Bulletin de l'Ecole française d'Extrême-Orient* 88 (2001), p. 60.

[3] *Ming shilu*, 133 vols. (Taibei: Zhongyang yanjiuyuan lishi yuyan yanjiusuo, 1966) (Taizong), j. 154, p. 1776; j. 182, p. 1963; j. 233, p. 2255; j. 263, p. 2403, (Xuanzong), j. 13, p. 347; j. 105, p. 2341; (Yingzong), j. 87, pp. 1755-1756. For a discussion of these embassies see Kauz/Ptak, "Hormuz in Yuan and Ming Sources", pp. 46-54; see also Roderich Ptak, "Pferde auf See: ein vergessener Aspekt des maritimen chinesischen Handels im frühen 15. Jahrhundert", *Journal of the Economic and Social History of the Orient* 34 (1991), p. 230.

[4] It is not certain if envoys from Hormuz arrived in China with this embassy; cf. Kauz/Ptak, "Hormuz in Yuan and Ming Sources", p. 52.

Overseas horse exports from the area of the Persian Gulf have been mentioned in some studies, but never dealt with exclusively.[5] The aim of this paper is to outline the importance of the Persian Gulf as a hub of horse exports to India and China. It shall be suggested that horses constituted the chief merchandise of the region. As will be shown below, the Arab peninsula, the Red Sea (in particular the port of Aden at its mouth – the numerous reefs made navigating in the Red Sea itself extremely difficult) and the Persian Gulf were world-famous for their exports of horses. Because of practical reasons the focus will be laid on the area of the Persian Gulf in this paper and not on the southern part of the Arabian Peninsula, where besides Aden other ports had emerged as trading centres. It is probably not to too far-fetched to assume that differences and rivalries existed between merchants from the southern part of Arabia and the Red Sea on the one side and of the Persian Gulf on the other side. Such differences cannot be totally neglected,[6] but were probably of rather small importance. Contrarily, the two trading cultures and networks were often so closely interwoven that they cannot be clearly distinguished.

<center>I</center>

But why were horses exported to such distant places as India and even China? There are two obvious answers: first, horses from the Persian Gulf area were of the utmost quality, and second, horses were in such immense demand in South and East Asia that they were even imported from the west of the continent. Regarding the first possible answer, another question arises. What kinds of horses were exported from the Persian Gulf: vaguely defined 'Persian' horses, famous Arab thoroughbreds or others? Whereas Arab thoroughbreds are clearly distinguished today as a special race of horse, this is not the case with Persian horses. But both horses from Arabia and Iran were highly estimated in overseas exchanges, as will be shown below. "Persian horses" can probably be associated with the Turkmen or Akhal-Teke horses of our days, though their relationship might not be so close. Similar remarks can be made about Arab horses which, however, also needed several centuries for their development to the present form. Furthermore, the classifications for horses were quite different to those used today; the traditional Arab hippological literature knew of three groups:[7] ʿatīq (1st class = noble, both parents of Arab lineage), haǧīn (2nd class, stallion with Arab lineage, mare without Arab lineage), muqrif (2nd class, mare with Arab lineage, stallion without Arab lineage), birdoun (3rd class, both parents of non-Arab lineage). However, one may ask here, what does "Arab lineage" mean? These terms were of course only used in a specific area, namely the Arab Peninsula; for overseas trade other names designated the various races and classes of horse.

The high esteem which horses from Western Asia enjoyed in China found expression in a range of designations: *mingma* 名馬, *liangma* 良馬, *junma* 駿馬, *dama* 大馬, *xima* 西馬, *tianma* 天馬 – famous, good, fine, big, western, and celestial horses.[8] The Chinese obviously did not distinguish between horses of Arab or Iranian stock, but used names which indicate their superiority rather than their specific origin. The following horse types were differentiated in India:[9]

- *kuhī*-horses from the mountainous areas in Northeast India,
- *tātārī*-horses from Central Asia,
- *baḥrī*-horses (literally "sea-horses"), imported by sea from the Arab Peninsula and the Persian Gulf.

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[5] See Simon Digby, *War-horse and Elephant in the Dehli Sultanate: a Study of Military Supplies* (Oxford: Orient Monographs, 1971), esp. pp. 29-33; Ranabir Chakravarti, "Horse Trade and Piracy at Tana (Thana, Maharashtra, India): Gleanings from Marco Polo", *Journal of the Economic and Social History of the Orient* 34 (1991), pp. 159-182; Ptak, "Pferde auf See", pp. 199-233; and the articles of Ranabir Chakravarti, Yokkaichi Yasuhiro and Rui Loureiro in this volume.

[6] Thus, Walad al-ʿAmīd, ruler of Kīsh, attacked Aden in ca. 1135 (S. D. Goitein, "Two eyewitness reports of an expedition of the king of Kīsh (Qais) against Aden", *Bulletin of the School of Oriental and African Studies* 16 (1954), pp. 247-257).

[7] Marit Kretschmar, *Pferde und Reiter im Orient: Untersuchungen zur Reiterkultur Vorderasiens in der Seldschukenzeit* (Hildesheim, New York: Olms Presse, 1980), pp. 86-98.

[8] Ptak, "Pferde auf See", p. 209.

[9] Cf. Digby, *War-horse and Elephant in the Dehli Sultanate*, p. 29, and the article of Ranabir Chakravarti in this volume.

The last type enjoyed the highest esteem, but, as in China, obviously no distinction was drawn between Arab and Iranian horses. We may temporarily affirm that high-grade horses were especially estimated as export items from the Middle Eastern region; they were called *baḥrī*-horses.

It is not clear when these exports started, but we may assume that they became increasingly important in the course of the 13th century.[10] Benjamin of Tudela, who describes the Persian Gulf and India in the latter half of the 12th century, knows nothing of horse trade in that region or does not mention it – he lists no horses among the commodities bartered.[11] However, Iran was already in the seventh century well-known for producing the 'noblest' horses,[12] and overseas trade may also be assumed for this early period. High-quality horses ("thousand-mile-horses" = *qianli ma* 千里馬) were famous during the Tang dynasty and some of them were even brought to China as tribute.[13] Horse trade from the western part of the Indian Ocean continued in the centuries thereafter. According to Zhou Qufei 周去非 Arab horses were exported to Quilon in the 12th century,[14] and we can read in the "Description of All Barbarians" (*Zhufan zhi* 諸蕃志) written by Zhao Rugua 趙汝适 a few decades later in 1225 that in Oman, which is situated on the southern side of the Persian Gulf and which took an increasingly important position in the Indian Ocean trade from this time onwards, horses, pearls and dates were bartered for cloves, cardamon seeds and camphor.[15] In addition Zhao Rugua regarded "good horses" (*haoma* 好馬) (and pearls) as the major local product of Kish – the most important emporium of the region during that time. Hormuz took its place in the early 14th century.[16] These horses were certainly not bred on the tiny island of Kish itself, but were imported from places on the mainland, both Iran and the Arab Peninsula. However, when in Chinese texts the *Zhufan zhi* commodities are described as products of a certain place and which could impossibly have been produced there, one can suppose that they stood out among the other wares. Thus, horses were probably of great importance for the trade of Kish. For these reasons, it can be safely assured that at the turn from the 12th to the 13th century horses were already exported from the Persian Gulf.

The horse trade was promoted by several historical developments in the course of the 13th and 14th centuries.

First, the Mongols under their leader Hülegü conquered large parts of the Middle East (Bagdad fell in 1258 and the Abbasid dynasty met its end) and the approximate area of modern Iran became the centre of the Ilkhanid dynasty. Hülegü and Qubilai, conqueror of the Southern Song dynasty, were both sons of Tolui, himself the youngest son of Chingis Khan. This close relationship between the Ilkhanids and the Yuan rulers in China resulted in a strong increase of interactions between both regions which also positively influenced the export of horses to China.[17] Ilkhanids and Yuan rulers were both hostile towards the *ulus* Chaghadai in between, and the overland traffic along the Silk Road was consequently often interrupted, especially in the

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[10]   For Arab horses see Kretschmar, *Pferde und Reiter im Orient*, p. 120-121.

[11]   Benjamin of Tudela (author), Marcus Nathan Adler (ed.), *The Itinerary of Benjamin of Tudela: Critical Text, Translation and Commentary* (rpt. New York: Philipp Feldheim, 1965), pp. 62-3) lists the following commodities brought from Shinar (Mesopotamia), Yemen and Persia to the port of Kish in the Persian Gulf for trade with India: "silk, purple and flax, cotton, hemp, worked wool, wheat, barley, millet, rye, and all sorts of food, and lentils of every description...", the merchants from India brought spices for exchange.

[12]   André Wink, *Al-Hind: The Making of the Indo-Islamic World, vol. 2, The Slave Kings and the Islamic Conquest, 11th-13th Centuries* (Leiden, New York, Köln: Brill, 1997), p. 85.

[13]   Ouyang Xiu 歐陽修, Song Qi 宋祁, *Xin Tangshu* 新唐書 (Beijing: Zhonghua shuju, 1995), j. 221b, p. 6262.

[14]   Almut Netolitzky, *Das Ling-wai tai-ta von Chou Ch'ü-fei: Eine Landeskunde Südchinas aus dem 12. Jahrhundert*, Münchener Ostasiatische Studien 21 (Wiesbaden: Franz Steiner Verlag, 1977), p. 41.

[15]   Friedrich Hirth and W. W. Rockhill (eds., tr.), *Chau Ju-kua: His Work on the Chinese and Arab Trade in the Twelfth and Thirteenth Centuries, Entitled Chu-fan-chï* (rpt. Taipei: Ch'eng-Wen Publishing Company, 1970), p. 133; Zhao Rugua 趙汝适 (author), Yang Bowen 楊博文 (ed.), *Zhufan zhi jiaoshi* 諸蕃志校釋, Zhongwai jiaotong shiji congkan (Beijing: Zhonghua shuju, 1996), j. shang, p. 108; Ptak, "Pferde auf See", pp. 205-206.

[16]   Hirth/Rockhill, *Chau Ju-kua*, p. 134; Zhao Rugua/Yang Bowen, *Zhufan zhi jiaoshi*, p. 108; for the significance of Kish see Ralph Kauz, "The Maritime Trade of Kish during the Mongol Period", in Linda Komaroff (ed.), *Beyond the Legacy of Genghis Khan*, Islamic History and Civilization, Studies and Texts 64 (Leiden, Boston: Brill, 2006), pp. 51-67.

[17]   Thomas T. Allsen, *Conquest and Culture in Mongol Eurasia* (Cambridge: Cambridge University Press, 2001), pp. 41ff. Among the presens of the Ilkhanid ruler Abū Saʿīd (1316–35) to the Yuan emperors horses were found in several cases (ibid., p. 44).

14th century. Journeys overseas, though exhausting and dangerous, were thus preferred; Marco Polo for example preferred to return by boat.

Second, the demand for horses in India increased immensely during the period mentioned for a number of reasons: establishment of the Delhi Sultanate, battles with invading Mongol forces, increasingly powerful Hindu states, as the Pandya kingdom and later the kingdom of Vijayanagara (since around 1340), and battles between these states and the Delhi Sultanate and its successors. It may not be too far-fetched to speak of a general structural militarization of the subcontinent.[18] Cavalry turned out to be the major weapon used by the Delhi sultanate, and the Hindu states of the south (especially Vijayanagara) had to respond adequately if they wanted to prevail against this danger. The only way was to build up a large army integrated with a potent cavalry. Unfortunately, overland trade was often blocked, and the necessary horses had to be imported from overseas, from the Persian Gulf and the Arab Peninsula.[19] The numbers of these horses will be outlined in more detail below, but it can be stated that they were enormous and the horse export to the east became a major component of the Indian Ocean trade from the 13th century onwards.

<center>II</center>

In the following sections descriptions of this horse trade will be given in order to depict the nature of the business before a final conclusion will be drawn. The chronological order of the reports will be neglected in favour of their structural resemblances.

The fame of the Persian Gulf as a provider of first-class horses is best illustrated by the 'geography' (*Daoyi zhilüe* 島夷誌略, 1349) of Wang Dayuan 汪大淵 who went twice to the seas and may even have been as far as the western part of the Indian Ocean.[20] In the sketch on Ganmaili 甘埋里, which should be Hormuz, horses and horse trade figure prominently. We read of special 'horse-ships' (*machuan* 馬船) which were larger than ordinary merchant vessels; on the lower hold frankincense was stowed as ballast and on their upper decks several hundred horses were allegedly carried. Wang Dayuan continues describing the high-class horses which "can run a thousand *li* in one day and one night".[21] When considering these statements, one may first doubt if frankincense can indeed serve as ballast, and second if the high number of "several hundred horses" reflects the factual load of horses. Some dozens may be closer to reality than this rather high number.[22] Nevertheless, the remarks of the Chinese author show that the horse trade in the Persian Gulf was famous even in China.

The mode of transporting the horses is confirmed by Marco Polo who chose the overland route to China when seeing the Persian ships in the harbour of Hormuz. He described how the horses were loaded on top of the cargo with only some hides under their hooves.[23] The trade in horses and their export to India figures prominently in several places in his travelogue:[24]

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[18] Cf. Hermann Kulke, Dietmar Rothermund, *Geschichte Indiens: Von der Induskultur bis heute* (Munich: C. H. Beck, ²1998), pp. 238-239, 246-247.

[19] Digby, *War-horse and Elephant in the Dehli Sultanate*, p. 15; Chakravarti, "Horse Trade and Piracy at Tana", pp. 179-180; Peter Feldbauer, *Estado da India: Die Portugiesen in Asien 1498–1620* (Wien: Mandelbaum, 2003), pp. 23, 44-45. Domingo Paes counted 35,000 cavalrymen in 1522 (Kulke/Rothermund, *Geschichte Indiens*, p. 246) and Ludovico de Varthema 40,000 in the same period (Ludovico de Varthema (author), Folker Reichert (tr., ed.), *Reisen im Orient* (Sigmaringen: Jan Thorbecke, 1996, p. 140).

[20] Wang Dayuan 汪大淵 (author), Su Jiqing 蘇繼廎 (ed.), *Daoyi zhilüe jiaoshi* 島夷誌略校釋, Zhongwai jiaotong shiji congkan (Beijing: Zhonghua shuju, 2000), pp. 364-369; Kauz/Ptak, "Hormuz in Yuan and Ming Sources", pp. 39-40; W. W. Rockhill, "Notes on the Relations and Trade of China with the Archipelago and the Coasts of the Indian Ocean during the Fourteenth Century", *T'oung Pao* 16 (1915), pp. 623-624. Rockhill identified Ganmaili 甘埋里 in Wang Dayuan's text with the Comoro Islands. However, it should be Hormuz.

[21] Wang Dayuan/Su Jiqing, *Daoyi zhilüe jiaoshi*, p. 364.

[22] Simon Digby, "The Maritime Trade of Asia", in Tapan Raychaudhuri and Irfan Habib (eds.), *Cambridge Economic History of India, 1200–1710*, vol. 1 (Cambridge: Cambridge University Press, 1982), pp. 128-129.

[23] Marco Polo (author), Henry Yule and Henri Cordier (eds., tr., com.), *The Book of Ser Marco Polo the Venetian: Concerning the Kingdoms and Marvels of the East*, 2 vols. (New Delhi: Munshiram Manoharlal Publishers, 1991, rpt. of the 3rd edition), p. 108.

[24] Marco Polo, *The Book of Ser Marco Polo*, I, pp. 83-84.

In this country of Persia there is a great supply of fine horses; and people take them to India for sale, for they are horses of great price, a single one being worth as much of their money as is equal to 200 livres Tournois; some will be more, some less, according to the quality. […] Dealers carry their horses to Kisi [Kish] and Curmosa [Hormuz], two cities on the shores of the Sea of India, and there they meet with merchants who take the horses on to India for sale.

Fortunately, the two famous historians of the Ilkhanids, Rashīd ad-Dīn Fażlallāh and Vaṣṣāf al-Ḥażrat, related both the horse export from the then superior emporium of the Persian Gulf, Kish, to the kingdom of Maʿbar (viz. the Pāndyas) in the southeastern part of India. Rashīd ad-Dīn writes that the brother of Shaykh Jamāl ad-Dīn, ruler of Kish, Malik Taqī Allāh,[25] who was an important official in Maʿbar decided to acquire 1,400 horses from his brother's stud farms annually and send them to Maʿbar. Additionally, 10,000 horses should be bought from other places in the Gulf as Qatīf, Laḥsā, Baḥrayn, Hormūz, Kalahāt and others. The price for one horse should be 220 dinars and the merchants should be compensated for any loss or death of the horses. The annual price for these 10,000 horses was thus 2,200,000 dinars. In the historiography of Vaṣṣāf almost the same text can be found.[26] At first glance this transaction seems to be a deal between the two brothers at the expense of the treasury of the kingdom of Maʿbar, whose rulers, however, had to consent. According to the above mentioned numbers, if we make the generous calculation that 100 horses could have been loaded onto one ship, we could conclude that at least 100 "horse-ships" annually took to the sea from the Persian Gulf to Maʿbar!

It cannot be definitely decided in retrospect if the numbers of Rashīd ad-Dīn and Vaṣṣāf are exaggerated, and, if so, to what degree, but Marco Polo basically confirms Maʿbar's immense desire for horses. Furthermore, it should be taken into consideration that the need for horses was enormous in India, because of the above mentioned reasons and because of another factor which has not yet been mentioned: the horses were notoriously maltreated in India. Vaṣṣāf also observed this maltreatment and discussed it in some detail, maybe because he was himself amazed at the high numbers of horses transported to Maʿbar. Marco Polo mentions the lamentable handling of the horses in the southern Indian kingdom as well and sees the cause particularly in the lack of experienced horse-keepers who were certainly not dispatched together with the horses by the traders of the Persian Gulf.[27] Business prevailed over care for the equids. Vaṣṣāf describes the food given to them in India: butter roasted peas and cow's milk (perhaps because of the lack of grass?).[28] The Russian merchant Athanasius Nikitin who went to India in the second half of the 15th century lists quite similar food for horses: "Horses are fed on peas; also on *kichiris*, boiled with sugar and oil…"[29] Vaṣṣāf's commentary on this mode on feeding was translated by Hammer-Purgstall into the following verses:[30]

Wer wird zum Fraß den Eulen Zucker geben
Und Papagei'n das Aas, davon zu leben?
Die Äser nimmt zum Mahle sich der Rabe,
Für Papageien ist der Zuckerkandel Gabe.
Wer wird dem Esel Perlenschmuck gewähren?
Wer wird den Stier mit Mandelbackwerk nähren?

Vaṣṣāf continues to list a number of maltreatments which resulted finally in the decline of the horses' strength. The Indian need for horses obviously increased, because they were not (or could not be) handled in

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25 Taqī ad-Dīn according to Vaṣṣāf.
26 Rashīd ad-Dīn Fażlallāh (author), Karl Jahn (tr., ed.), *Die Indiengeschichte des Rašīd ad-Dīn: Einleitung, vollständige Übersetzung, Kommentar und 80 Texttafeln* (Wien: Verlag der Österreichischen Akademie der Wissenschaften, 1980), p. 37; Vaṣṣāf al-Ḥażrat (Shehāb ad-Dīn ʿAbdallāh b. Fażlallāh Shīrāzī), Muḥammad Mahdī Eṣfahānī (ed.), *Tārīkh-e Vaṣṣāf (Tajzīyeh al-amṣār va tajzīyeh al-aʿṣār)* (Tehrān: Ibn Sīnā, 1959/60, rptr. of the edition Bombay 1269h, 1853), pp. 301-302; see also Yokkaichi's article in this volume concerning this question.
27 Marco Polo, II, p. 340.
28 *Tārīkh-e Vaṣṣāf*, p. 302.
29 Athanasius Nikitin, "The Travels of Athanasius Nikitin of Twer: Voyage to India", in R. H. Major (tr., ed.), *India in the Fifteenth Century: Being a Collection of Narratives of Voyages to India* (Frankfurt a. M.: Institute for the History of Arabic-Islamic Science, 1994, rpt. of the edition London: Hakluyt Society, 1857), p. 10. *Kichrī* is made of rice, pulses and butter.
30 Besides his "Geschichte Wassaf's" (Vienna 1856), the first chapter of Vaṣṣāf's opus, Joseph von Hammer-Purgstall also translated the remaining four. This translation will be published by the Institute of Iranian Studies of the Austrian Academy of Sciences in due course. The citation can be found on p. 602 of the typescript.

a proper and healthy way. However, the blame should not be put on the Indian horse-keepers alone because the climate and conditions certainly also played a part in it.[31] The Iranian and Arab merchants exploited this maltreatment and/or the bad condition of the horses in India because it stimulated their business. However, the high numbers given by Rashīd ad-Dīn and Vaṣṣāf may still raise doubts.

The depictions of the two Ilkhanid historians give rise to the supposition that the horse trade was a variety of export which made its profits rather by mass export than by such high-grade products (viz. horses) as outlined above. The merchants of Kish and other places seem to have been interested in selling as many horses as possible to the Maʿbar rulers while disregarding the health and condition of the animals. Remarks of Ibn Baṭṭūṭa, the famous Arabian traveller from the Maghreb, point again another way. He lists the prices which horses of different origins could fetch in India in the years 1334–1340: race horses from Yemen, Arabia and Fars surpass Tatari horses by far. The first kind of horses achieved prices from 1000 to 4000 *tanka*, while an exceptional Tatari horse cost only 500 and an ordinary one 100 *tanka*.[32] Thus a *baḥrī*-horse stood out among the other horses, but it should be taken into consideration that these horses were used for racing and not for warfare. They were thus explicitly luxury items. Ibn Baṭṭūṭa describes how the Tatari horses worth 100 or 500 *tanka* were driven in herds of about 6,000 from Central Asia to India.[33] These were horses mainly used for war. However, here it should be stressed again that Ibn Baṭṭūṭa's depiction goes only for Northern India;[34] the Hindu kingdoms in the south had to look for supplies overseas which would certainly not consist solely of first-class thoroughbreds, but also of good horses fit for warfare.

Horse exports continued after the fall of the Ilkhanids in 1335, but much less information on the topic has survived until today. It is only possible to draw indirect conclusions on this trade. Hormuz became the major emporium in the Persian Gulf at the beginning of the 14th century and remained so until it was captured and occupied by Afonso de Albuquerque in 1515.[35] The horse exports must thus have been carried out from this place and in Portuguese texts a number of hints on this trade can be found,[36] but for the time before, the extent of the trade can be only presumed. "Horse at sea" must have been a very common feature during the Chinese maritime expeditions (1405–1433), when even cavalry was taken to sea,[37] but, probably more important, horses were also transported from west to east crossing the entire Indian Ocean.[38] The trade with China in the course of these expeditions was certainly profitable for Hormuz and horses constituted a major part of it. Thus it was acknowledged especially by the Chinese government when a Hormuzian arrived in 1442 at the Chinese court and presented horses as tribute. He asked if the close relations of the previous years could be resumed (which was not the case).[39] In the middle of the 15th century, horses could thus still be transported all the way from Hormuz to China.[40]

Horse trade was a common feature in the Persian Gulf during the period mentioned and probably every ship which passed the Strait of Hormuz carried horses on its deck. ʿAbd ar-Razzāq Samarqandī, who was sent as ambassador to Calicut by the Timurid ruler Shāhrukh from 1442 to 1445, narrates vividly how they

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[31] Cf. Otto Spies, *An Arab Account of India in the 14th Century: Being a Translation of the Chapters on India from al-Qalqashandī's Ṣubḥ ul-aʿshā* (Stuttgart: W. Kohlhammer, 1936), p. 47.

[32] Ibn Baṭṭūṭa (author), H. A. R. Gibb (tr., rev., annot.), *The Travels of Ibn Baṭṭūṭa, A.D. 1325-1354: Translated with Revisions and Notes from the Arabic Text Edited by C. Defrémery and B. R. Sanguinetti*, Works issued by the Hakluyt Society, 2nd ser. 110, 117, 141, 178, 190, 5 vols. (Cambridge: Hakluyt Society, 1958-2000), II, p. 479 (four *tanka* were worth one Moroccan dinar in gold (ibid.), the weight of an Indian *tanka* was 10.76 g); Ẓiyāʾ ad-Dīn Baranī gives in his *Tārīkh-e Fīrūz Shāhī* the following prices for horses in the first years of the 14th century: first class 100–120, second class 80–90, third class 65–70 *tanka* (cited in Chakravarti, "Horse Trade and Piracy at Tana", pp. 171-172 and Digby, *War-horse and Elephant in the Dehli Sultanate*, pp. 37-41; Digby discusses the prices and their differences at length).

[33] Ibn Baṭṭūṭa, II, p. 478.

[34] Digby describes in his *War-horse and Elephant in the Dehli Sultanate*, p. 41, how the supply of horses deteriorated also in the Delhi Sultanate at the end of the 14th century.

[35] For a history of Hormuz see Jean Aubin, "Les princes d'Ormuz du XIIIe au XVe siècle", *Journal Asiatique* 241 (1953), pp. 77-138; id., "Le royaume d'Ormuz au début du XVIe siècle", *Mare Luso-Indicum* (1973), pp. 77-179.

[36] I refer again to the article of Rui Loureiro in this volume.

[37] Ma Huan/Mills, *Ying-yai Sheng-lan*, p. 31.

[38] Cf. the detailed study of Ptak, "Pferde auf See", pp. 207-227.

[39] Kauz/Ptak, "Hormuz in Yuan and Ming Sources", pp. 53-54.

[40] It must be admitted that the envoy might have bought the horses en route, though it cannot be definitely decided.

entered the ships in Hormuz with the horses and how he became weak because of the bad smell.[41] It should be reaffirmed: probably with the only exception of the comfortable Chinese ships at the time of the expeditions, it was the most normal feature to take to sea together with horses when leaving ports at the western end of the Indian Ocean. Athanasius Nikitin, the already mentioned Russian merchant, was thus also advised to take a stallion with him as a commodity when he left Hormuz for India. This horse, obviously of high class, cost Nikitin considerable trouble and he had to keep it for one year before he was able to sell it. But these difficulties were mainly the result of his position as a foreigner and non-Muslim.[42]

The common shipment of men and horses in the Persian Gulf area remained customary well into the 19th century and this custom was often disadvantageous for the passengers. The German traveller Max von Oppenheim complained about these conditions in 1893 as the Timurid Samarqandī had done more than 400 years previously.[43]

CONCLUSION

When discussing economic and commercial history, it is often impossible to describe the factual quantitative extent. Unfortunately, this is also the case with the above outlined topic. Without doubt, horses were a major means for both transport and warfare, and regions which lacked for any reasons these means were eager to acquire them. Horses were especially scarce in the southern part of India because of difficulties in breeding and keeping them. Additionally, horses from the Persian Gulf region (and the Arab Peninsula) were of higher class then those from elsewhere. Thus, an expected flow of horses existed from the Persian Gulf to India and further on. In various contemporaneous texts respective clues can consequently be found. But here the logic comes to an end and further questions remain unanswered: what was the share of the horse trade in the entire trade? How did the horse trade develop through the centuries? The supply of horses could be significant or even crucial for warfare – was this ever exploited? Many other questions may be added.

However, some facts can be ascertained: the horse trade with India flourished, and horses were especially welcomed in South India (Maʿbar and probably later Vijayanagara which was especially well-armed). Several thousand horses (maybe up to ten thousand) left the Persian Gulf annually for India and further on and constituted besides "common" merchandise as coral, pearls and frankincense, an important export item, probably not deserving much special attention in the eyes of contemporaries.

The horses of that region could be counted among the best worldwide and were accordingly longed for (and expensive). As the case of Nikitin proves, even one horse could be worth the transport costs. Might the international request for high-class horses have possibly stimulated the breeding process? But the horses were certainly not always of the highest class: horses suitable for war were also needed. We may conclude in stressing again that horses were a natural commodity on the ships heading from the Persian Gulf to the east for centuries – they formed an important and integral part of the economy, trade and culture of the Indian Ocean society.

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[41] Kamāl ad-Dīn ʿAbd ar-Razzāq Samarqandī (author), Muḥammad Shafīʿ (ed.), *Maṭlaʿ as-saʿdayn wa majmaʿ al-baḥrayn* (Lahore 1946–1949), p. 769; an analysis of this travellogue can be found in Muzaffar Alam, Sanjay Subrahmanyam, *Indo-Persian Travels in the Age of Discoveries, 1400–1800* (Cambridge: Cambridge Univ. Press, 2007), pp. 54-82.

[42] Nikitin, "The Travels of Athanasius Nikitin of Twer", pp. 8-15.

[43] Max Freiherr von Oppenheim, *Vom Mittelmeer zum Persischen Golf durch Haurān, die Syrische Wüste und Mesopotamien*, 2 vols. (Hildesheim e. a.: Georg Olms, 2004, rpt. of the edition Berlin: Dietrich Reimer, 1899), II, pp. 115, 307; On p. 307 we can read: "Die Verschiffung der arabischen Pferde nach Indien ist ein einträgliches Geschäft für die Schiffahrtsgesellschaft, der die Rücksicht gegen europäische Kajütenpassagiere […] zum Opfer fallen muss."

Portuguese Involvement in Sixteenth Century Horse Trade through the Arabian Sea

Rui Manuel LOUREIRO[1]

THE PORTUGUESE *ESTADO DA ÍNDIA*

The Portuguese travelled to India by the sea route during the final years of the fifteenth century, allegedly in search of "Christians and spices". That was the explanation given by one of Vasco da Gama's crew members upon arrival at Calicut in 1498,[2] and there is no reason to doubt that this assertion summarised the main objectives of the Portuguese Crown. The extraordinary success of the first and exploratory expedition to India, together with the information collected on site, convinced the Portuguese Crown that it would be feasible to establish a permanent outpost along the Indian west coast, from where spices and other luxury wares, such as porcelain and silk, could be regularly exported to Europe. The Portuguese Oriental enterprise, however, rapidly began to enlarge, not only involving a growing amount of human and material resources, but also expanding geographically from the Indian west coast in all directions of the compass.

As it turned out, the Portuguese also understood that sizeable profits could not be obtained if trading activities were restricted to local scenarios. The mechanics of the monsoons and the geographic distribution of the production centres forced them to plan large scale "interventions" which would involve the African shore and the entire northern half of the Indian Ocean. At the same time they discovered the immense potential of regional networks; these often required limited investments, but yielded returns much larger than the ones drawn from the long and dangerous Cape route, where a round trip took no less than eighteen months.

Fifteen years after Vasco da Gama arrived in India, the Portuguese had thus made contact with the more important Oriental port-cities, from Sofala, on the Swahili coast, to Guangzhou, on the Chinese mainland; Portuguese strongholds had been established in strategic locations, such as Hormuz, Goa and Malacca, under the command of Afonso de Albuquerque; a permanent Portuguese naval force was operating in the Arabian Seas, trying to control the most significant maritime lanes; and an administrative structure was being organized to manage a growing array of political and economic interests. The Portuguese *Estado da Índia*, for decades to come, would be a permanent feature of maritime Asia's politics and commerce.[3]

THE HORSE TRADE IN THE ARABIAN SEAS

The Portuguese came from a culture where horses were present in daily life. Many of the men embarking for India in the sixteenth century, whatever their social status, had had previous contacts with horses, whether for transportation, work, enjoyment, or war. Horsemanship was common among most of the nobles and among men with a military background.[4] Dealing with horses, then, was nothing extraordinary for the Portuguese in India; they just had to adapt their own practices to a new social and ecological environment.

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[1] Universidade Lusófona, Lisboa.

[2] Álvaro Velho (author), Luís de Albuquerque (ed.), *Relação da viagem de Vasco da Gama* (Lisbon: Grupo de Trabalho do Ministério da Educação para as Comemorações dos Descobrimentos Portugueses, 1989), p. 51.

[3] Sanjay Subrahmanyam, *The Portuguese Empire in Asia, 1500-1700. A Political and Economic History* (London: Longman, 1993), pp. 55-79.

[4] Thomas F. Arnold, "Diverging Military Cultures of East and West – The Very Long Sixteenth Century", *Mare Liberum* (Lisbon) 20 (2000), p. 62: "Horsemanship was a lingua franca."

This explains why references to horses do not abound in Portuguese written sources originating from India in the sixteenth and early seventeenth centuries. Notwithstanding, several topics can be properly documented.

Portuguese imperial strategy involved the gathering of intelligence about the most important maritime routes and about the circulation of profitable merchandises. Early Portuguese observers of Oriental realities, such as Tomé Pires and Duarte Barbosa, who wrote global ethno-geographic accounts of Asia around 1515-1516, immediately identified horses as one of the most important commodities being regularly exchanged across the Arabian Sea, both in terms of the revenues and the political leverage they could generate.[5]

Horses were in great demand on the Indian subcontinent, on account of their use and abuse in the constant wars fought between the Indian princes, especially among the Muslim sultanates of the Deccan, and between some of these and the Hindu empire of Vijayanagar. To assess the importance of the Indian markets, suffice it to say that it was not uncommon for cavalry forces in Indian polities to range within the tens of thousands. A Portuguese horse-dealer who travelled to Bisnaga, or Vijayanagar, in the 1520s, observed that the ruler of that South Indian empire possessed no less than 20,000 horses.[6]

Apart from the many military conflicts, ecological conditions in much of India, especially the tough climate and animal diseases, contributed to the drastic reduction of a local horse's life span. Hence, Tomé Pires' statement in his *Suma Oriental* that horses were "worth a high price in the kingdoms of Goa, of the Deccan and of Narsinga", and that "heavy dues were paid on them".

Although horses were bred in some regions of Gujarat, these animals were generally considered inferior to the ones coming from Persia and Arabia. In the words of Tomé Pires: "The best are the Arabians, next the Persians and third are those from Cambay."[7] Later Portuguese authors confirmed this judgement. The experienced soldier Francisco Rodrigues da Silveira, referring to Gujarat in the 1590s, wrote that "the horses produced in those parts are worthless and not even good to run away from the enemy"; and he continued: "Only Arabian and Persian horses are of any effect."[8] The chronicler António Bocarro, in the early years of the seventeenth century, also concluded: "The horses of this land of Arabia are judged to be the finest and the strongest in all of Asia."[9]

Already in pre-Portuguese times, a regular trade in horses had developed in the Arabian Sea, originating from several ports around the Strait of Hormuz, such as Masqat and Hormuz itself, where Arab and Persian horses were collected for export to India. Contemporary Portuguese reports acknowledge the extraordinary importance of Hormuz in the context of these trade relations. According to Tomé Pires, in that island paramount to all other merchandises "are Arabian and Persian horses".[10] Duarte Barbosa states that from "Arabia a great number of horses come, which they carry hence to India".[11] He adds that the merchants from

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[5] In recent years, besides generic references in Jean Aubin, "Le royaume d'Ormuz au début du XVIe siècle", in his *Le Latin et l'Astrolabe*, 3 vols. (Lisbon and Paris: Centre Culturel Calouste Gulbenkian and Comissão Nacional para as Comemorações dos Descobrimentos Portugueses, 1996-2006), II, pp. 117-118 and 168-170, M. N. Pearson, *Coastal Western India. Studies from the Portuguese Records* (New Delhi: Concept Publishing Company, 1981), pp. 78-80 and 90-91, and José Marinho dos Santos, *A Guerra e as Guerras na Expansão Portuguesa – Séculos XV e XVI* (Lisbon: Grupo de Trabalho do Ministério da Educação para as Comemorações dos Descobrimentos Portugueses, 1998), pp. 219-234, only an article by R. R. S. Chauhan, "The Horse Trade in Portuguese India", *Purabhilekh-Puratatva* (Panaji, Goa) 2.1 (1984), pp. 14-24, was dedicated to the problem of horse trade within the *Estado da Índia*. Meanwhile, João Manuel Teles e Cunha also devoted some pages of his unpublished M.A. dissertation to that topic: *Economia de um Império: Economia política do Estado da Índia em torno do Mar Arábico e Golfo Pérsico (elementos conjunturais, 1595-1635)* (Lisbon: Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa, 1995), pp. 405-416.

[6] David Lopes (ed.), *Chronica dos Reis de Bisnaga* (Lisbon: Imprensa Nacional, 1897), p. 114.

[7] Armando Cortesão (ed. and tr.), *The Suma Oriental of Tomé Pires*, 2 vols. (New Delhi: Asian Educational Services, 1990), I, pp. 21 and 62.

[8] Francisco Rodrigues da Silveira (author), Benjamim N. Teensma, Luís Filipe Barreto and George Davison Winius (eds.), *Reformação da milícia e governo do Estado da Índia Oriental* (Lisbon: Fundação Oriente, 1996), pp. 207-208.

[9] António Bocarro (author), Isabel Cid (ed.), *O livro das plantas de todas as fortalezas, cidades e povoações*, 3 vols. (Lisbon: Imprensa Nacional, Casa da Moeda, 1992), II, p. 51: "Os cavallos desta província de arábia se tem pellos milhores e mais fortes que há em todo o oriente."

[10] Tomé Pires, *Suma Oriental*, I, p. 20.

[11] Mansel Longworth Dames (ed.), *The Book of Duarte Barbosa*, 2 vols. (London: Hakluyt Society, 1918-1921), I, p. 94.

Hormuz sail to many ports in Arabia to fetch horses, especially to the Omani coast, where there are "many very excellent horses", and "send them to India".[12] Indian ports such as Chaul, Dabhol, Goa and Bhatkal prospered from this trade, until the arrival of the Portuguese on the scene. Around 1512 Afonso de Albuquerque wrote to the Portuguese King stating that: "The trade in horses yields incredible profits, because bringing them from Hormuz and from the coast of Arabia to Goa it is possible to gain 300, 400 or 500 percent."[13]

The importance of the horse trade was also on Afonso de Albuquerque's mind when he decided to conquer Goa in 1510 and to establish in that territory the strategic centre of Portuguese operations in Asia. Several of his subsequent reports to King Dom Manuel I testify to this, namely a long letter written in December 1513, where he explains the steps taken to try and secure for the Portuguese Crown the monopoly of horse importations to West India. In the first place, several Portuguese vessels were dispatched to the Arabian Sea to compel "all the ships from Hormuz with horses" to sail to Goa; as a result, that same year more than 400 horses, "very fine and very expensive", where brought thither. Then, Albuquerque ordered the building of large stables near to the port, enrolling 300 men to feed and treat the horses. Furthermore, all the merchants bringing horses to Goa were treated with utmost respect and given preferential treatment, when they wanted to buy normal supplies or export merchandise.[14]

But some harsh measures were also taken by the Portuguese. The well-known policy of issuing *cartazes* (a kind of licence or passport) to Indian vessels was implemented in an effort to control major trade routes, including those linking India with the Persian Gulf. Trading ships sailing without a *cartaz*, or proceeding to Indian ports other than Goa, ran the risk of being intercepted and having all their cargo confiscated by the Portuguese.[15] However, on their homebound voyage from Hormuz to India, ships carrying horses were entitled to receive free *cartazes*. Furthermore, "merchants from Hormuz" were exempt from duties on all the textiles they acquired in Goa for the horses they brought. And if a ship carried ten or more horses, its owner was exempt from taxes on all other merchandise on board his vessel. This exemption was granted even if some of the horses had died during the voyage.[16]

Under Portuguese control, Goa soon became India's main gate for Arabian and Persian horse imports, to the detriment of other ports. Referring to Dabhol and Chaul around 1515, Tomé Pires wrote: "These people who were so prosperous are watching their wealth fade away."[17] The establishment of a Portuguese protectorate over the kingdom of Hormuz in 1515 (pl. 35*)* strengthened the position of Goa even further, because it was now possible for the Portuguese to control or at least monitor the movement of horses at both ends of the route, and thus to increase profits from that trade.

From then on, and throughout the sixteenth century, the Portuguese were deeply involved in the horse trade passing through the Arabian Sea. In Hormuz as in Goa, official horse-brokers (*corretor-mor dos cavalos*) enrolled by the Portuguese Crown controlled and taxed all sales of horses; Portuguese Crown factors were established in Chaul, Dabhol and Bhatkal, in order to sell *cartazes* to local traders, and the Portuguese royal custom houses at Hormuz and Goa received a steady income from tax regulations applied to the horse trade. In 1527, an anonymous civil servant writing to the Portuguese King summarized the

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[12] Ibid., I, p. 70.

[13] Henrique Lopes de Mendonça and Raimundo António Bulhão Pato (eds.), *Cartas de Afonso de Albuquerque e documentos que as elucidam*, 7 vols. (Lisbon: Academia das Ciências de Lisboa, 1884-1935), I, p. 410: "O trato dos cavalos é um ganho desordenado, porque se ganha trezentos por cento e quatrocentos por cento e quinhentos por cento d'Ormuz e da costa d'Arábia a Goa, afora os direitos que pagam os cavalos na Índia."

[14] Ibid., I, pp. 152-154.

[15] Joaquim Heliodoro da Cunha Rivara (ed.), *Archivo Portuguez Oriental*, 6 vols. (New Delhi: Asian Educational Services, 1992), V, pt. 1, pp. 18, 29-30, 53.

[16] Vitorino Magalhães Godinho, *Les Finances de l'État Portugais des Indes Orientales (1517-1635)* (Paris: Fundação Calouste Gulbenkian, 1982), p. 127.

[17] Tomé Pires, *Suma Oriental*, I, p.53.

situation in the following way: "The most valuable thing Your Highness has in India is the revenue from the horses that come from Hormuz to Goa."[18]

<div align="center">THE LOGISTICS OF THE HORSE TRADE</div>

The transportation of horses by ship raises some interesting problems, which are rather hard to solve, however, since Portuguese sources seldom reflect on such practical matters. What kind of ships were used as horse carriers? Afonso de Albuquerque, in a letter to King Manuel I (1514), sketched one of his most daring projects: to raid the holy cities of Mecca and Medina with a Portuguese cavalry force, "to steal its many treasures" and also the body of "the Prophet", which would then be used "to ransom the Holy House of Jerusalem". To accomplish this incredible plan, he proposed "to take 400 horses in *taforeas*" to one of the Arabian ports in the Red Sea.[19]

The *taforeia* was a special type of *nau*, provided with a door at either side of the stern, to which a bridge could be attached, in order to allow the embarking of horses.[20] The word seems to appear for the first time in print in the *Crónica de el-Rei Dom João II*, by Garcia de Resende (Lisbon, 1545), referring to the dispatch from Lisbon to Morocco in 1488 of a large force of men and horses in "thirty caravels and *taforeas*".[21] Several sixteenth-century Portuguese documents mention *taforeias* in the context of navigation through the Arabian Sea, but no details are added, with only one exception, where a *taforea de quinhentos toneis* used by Governor Lopo Vaz de Sampaio in the 1520s is referred to.[22] Furthermore, sometimes, Portuguese *naus* are named "Taforeia grande" or "Taforeia Pequena", but these ships, apparently used exclusively by the Portuguese, are nowhere described.[23]

Another source, in 1546, mentions "one *cotia* with horses" coming from Hormuz.[24] Nautical terminology in Portuguese early and mid sixteenth-century sources is rather confusing and the technical characteristics of different types of vessels are rarely disclosed. Yet, in some sources the *cotia* is defined as a light sailing vessel, with two masts.[25] More conclusive evidence only becomes available much later – through a drawing included in the *Itinerario* of the Dutch traveller and spy Jan Huygen van Linschoten. The first edition of this travelogue (Amsterdam, 1595) contains a large map of Goa which shows several "champanas & cotias de

[18] António Dias Farinha, "Os Portugueses no Golfo Pérsico (1507-1538)", *Mare Liberum* (Lisbon) 3 (1991), p. 25: "a maior cousa que Vosa Alteza tem na India he o rendymento dos cavalos que vem d'Ormuz a Guoa que rende oytenta mill pardaos d'ouro."

[19] Afonso Brás de Albuquerque (author), Joaquim Veríssimo Serrão (ed.), *Comentários de Afonso de Albuquerque*, 2 vols. (Lisbon: Imprensa Nacional, Casa da Moeda, 1973), pt. 4, ch. 7: "determinava de levar quatrocentos cavallos em taforeas, e desembarcar no porto de Liumbo, e correr a casa de Meca e roubar todas os thesouros que havia nella, que eram muitos, e o corpo do seu mão Profeta, e trazelo pêra com elle se resgatar a Casa Sancta de Jerusalém: e podia-se fazer muito bem, porque em hum dia e meio podiam ir a Midina, onde os seus ossos estam" (pp. 39-40).

[20] Humberto Leitão and J. Vicente Lopes, *Dicionário da linguagem de marinha antiga e actual* (Lisbon: Centro de Estudos Históricos Ultramarinos, 1974), p. 495.

[21] Garcia de Resende, "Vida e feitos d'el-Rey Dom João segundo", in Evelina Verdelho (ed.), *Livro das Obras de Garcia de Resende* (Lisbon: Fundação Calouste Gulbenkian, 1994), ch. 76, p. 267: "mandou el-rey entam o dito Fernam Martinz Mazcarenhas, com trinta caravellas e taforeas e com elle cento e cincoenta de cavalo homees fidalgos e cavaleyros de sua guarda". João Pedro Machado, *Influência arábica no vocabulário português*, 2 vols. (Lisbon: Edição da Revista de Portugal, 1958-1961), II, p. 246, mentions the Arab "*taifuriã*", and also a probable Catalan origin for the Portuguese word. Cf. Henry and Renée Kahane, "El término mediterráneo *tafurea* 'buque para caballos'", in *Estudios dedicados a Menéndez Pidal*, vol. 1 (Madrid: Consejo Superior de Investigaciones Científicas, 1950), pp. 75-89.

[22] Francisco de Andrada (author), Manuel Lopes de Almeida (ed.), *Crónica de D. João III*, (Porto: Lello & Irmão, 1976), pt. 2, ch. 46.

[23] João de Barros (author), António Baião and Luís Filipe Lindley Cintra (eds.), *Ásia. Segunda Década* (Lisbon: Imprensa Nacional, Casa da Moeda, 1974), bk. 3, ch. 5.

[24] Elaine Sanceau, Maria de Lourdes Lalande and Filomena Gonçalves Gomes (eds.), *Colecção de São Lourenço*, 3 vols. (Lisbon: Centro de Estudos Históricos Ultramarinos, 1973-1983), III, p. 189.

[25] Sebastião Rodolfo Dalgado, *Glossário Luso-Oriental*, 2 vols. (New Delhi: Asian Educational Services, 1988), I, pp. 316-317.

gentios", anchored in the Mandovi River (pl. 36).[26] Another source, the regulation for the Goa customs' house (1522), mentions several types of ships bringing horses from Hormuz, namely: *naaos*, an indiscriminate large ship; *terradas* and *zambucos*, i.e., light sailing vessels, used to transport men and cargo up and down the Indian coast; and *cotias*, already mentioned.[27]

Nothing is known about the process of loading and unloading horses from these ships without movable doors. According to one source referring to the Omani coast, in the early years of the sixteenth century, horses were taken on board only at Qalhat (Calaiate) and Masqat, where the waters were calm "enough" for such an operation.[28] Perhaps the ships in question had to anchor alongside some sort of quay, from which gangplanks could be placed. Or perhaps other methods were used. A Flemish tapestry bought by a Portuguese client in the early years of the sixteenth century suggests that horses were lifted by cranes.[29] But this method would be extremely slow if used in Hormuz, where hundreds of horses were dispatched each year.

Only some aspects of the living conditions on board horse-carrying ships can be collected from texts and illustrations. Friar Agostinho de Azevedo, an Augustinian who lived in Hormuz for several years in the 1590s, states that horses there were bled before embarkation, thus becoming "extremely tame and without any vice". Inside the ships leaving Hormuz or Masqat for India, he continues, horses "were packed tightly together, in such a way that they couldn't move". While "they were at sea, they stood up all the time, never lying down during the entire journey", because they were held in place with straps.[30] This brings to mind a drawing made in the Iberian Peninsula by Christoph Weiditz in the 1520s, which shows a horse on board some sort of ship, held by a strap around its belly.[31]

Other details about horse transportation in the Arabian Sea can be gathered from the works of Portuguese physicians and naturalists who lived in India. The famous Garcia de Orta, in his *Colóquios dos simples e drogas da India* (Goa, 1563) (pl. 37), mentions the *esquinanto*, a plant that "grows in Masqat and Qalhat (Calaiate)", which the Portuguese call "straw of Mecca" or "grass of Masqat". Large quantities of this plant are brought to India by "the horse merchants on board their ships", which they use to cover the decks where the horses are kept, "to get rid of the foul smell of their urine and manure". Moreover, during the sea journey, the wet straw "is thrown overboard and immediately replaced".[32] This information is confirmed fifteen years later by Cristóvão da Costa, in his *Tractado de las drogas e medicinas de las Indias orientales* (Burgos, 1578) (pl. 38), where it is stated that the Arabs call this plant *cachabar* and *haxis caçule*, and that it can be used to feed the horses.[33]

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[26] Jan Huygen van Linschoten (author), Arie Pos and Rui Manuel Loureiro (eds.), *Itinerário, viagem ou navegação de Jan Huygen van Linschoten para as Índias Orientais ou Portuguesas* (Lisbon: Comissão Nacional para as Comemorações dos Descobrimentos Portugueses, 1997), plate 6.

[27] Godinho, *Les Finances*, p. 127: "Todalas nãos, terradas, huqueres, cotias, tavos e zambucos que de Urmuz vierem com cavalos".

[28] Afonso Brás de Albuquerque, *Comentários*, pt. 1, ch. 21, p. 69.

[29] Maria Antónia Gentil Quina, "As Tapeçarias 'À Maneira de Portugal e da Índia'", in Teotónio R. de Souza & José Manuel Garcia (eds.), *Vasco da Gama e a Índia*, 3 vols. (Lisbon: Fundação Calouste Gulbenkian, 1999), III, pp. 395-429.

[30] Agostinho de Azevedo, "Estado da India e onde tem seu principio", António da Silva Rego (ed.), *Documentação Ultramarina Portuguesa*, 5 vols. (Lisbon: Centro de Estudos Históricos Ultramarinos, 1960-1967), II, p. 114: "na embarcação se afinão e apurão, como ouro na fragoa, e ficão muy manso, e sem nenhuma ruim manha, e antes de os embarcarem sangrão nos, e na embarcação poem nos tan juntos e atados, que não pode hum bolir, que o não fação muitos [...] E emquanto vem no mar sempre vem em pee e nunca se deitão em toda a viagem, e assi dormem."

[31] Christoph Weiditz (author), Theodor Hampe (ed.), *Authentic Everyday Dress of the Renaissance* (New York: Dover Publications, 1994), plate lxii.

[32] Garcia de Orta (author), Conde de Ficalho (ed.), *Colóquios dos simples e drogas da Índia*, 2 vols. (Lisbon: Imprensa Nacional, Casa da Moeda, 1987), II, pp. 311-312 (colloquy on *esquinanto*, *Andropogon laniger*, Desf.): "a mais della trazem nas náos os mercadores de cavalos pera lhe deitar aos pés, pera que nam cheire mal a orina e o esterco delles; e pera isto trazem fardos, porque como se molha e dana a erva, deitamna ao mar, e tornam a deitar outra aos pés dos cavallos."

[33] Cristóvão da Costa (author), Jaime Walter (ed.), *Tratado das drogas e medicinas das Índias Orientais* (Lisbon: Junta de Investigações do Ultramar, 1964), p. 115: "Cacabar e haxis Caçule em Mascate, e em Calaiate, terra da Arábia."

THE DARK SIDE OF THE HORSE TRADE

In spite of its importance, or maybe because it was so important, the horse trade was repeatedly discussed among the Portuguese in India and elsewhere. Papal bulls annually issued from Rome listed specific types of activities that went against the Christian faith, normally in the Mediterranean context, and among them was usually trading in forbidden goods with non-Christians. Some items of commerce were subject to debate, including horses, since they could be used as a weapon against Christian powers. In 1550, the Jesuit Nicolau Lancillotto alerted his European brethren to the fact that "all the Portuguese living in these parts [of India] traffic in weapons and horses, and in all other sorts of merchandise, with Muslims and Jews and all sorts of infidels, in times of peace as well as in times of war". In view of the importance of such trade for the economic welfare of the Portuguese, he suggested that Jesuit authorities should request from the Pope a special dispensation, allowing these men "to trade in anything they wanted, without the risk of committing deadly sins or being excommunicated".[34] Papal exemption was duly granted.[35]

Apparently, this subject was then forgotten for several years, until in March 1568 the young and crusading King Sebastião issued a law forbidding his subjects, "whatever their quality or condition", the sale to "Muslims and Heathens" of "weapons, copper, saltpetre, and other sensitive merchandise", including horses, "under pain of death".[36] The citizens of Goa went into quite a commotion, and all the Goan authorities, civil and ecclesiastical, prepared documents discussing the allegedly sinful potentialities of the business of trading horses with the infidels. The chronicler Diogo do Couto, who was living in India at the time, gave a summary of these debates in one of his *Décadas da Ásia* and he explained that the Portuguese, and especially "the residents of Goa and Chaul", for decades "had been trading in Persian and Arabian horses" to sundry Indian kingdoms.

The arguments collected by both civil and religious authorities to justify the horse trade with Indian rulers, were manifold and summarise the mechanics of the trade. The Portuguese, it was explained, had been selling horses for more than half a century, between 1,500 and 2,000 animals each year, and those horses, as a rule were never used against Goa. On the contrary, they were employed by Indian rulers to attack each other, thus weakening their capacity to oppose Goa. Next, the horses sold in Goa had a brief life span, due to constant wars and the extreme climate, so that most Muslim and Hindu rulers constantly demanded new supplies. How could this endanger the Portuguese? Finally, revenues drawn form the horse trade were of paramount importance to the royal budget – and urgently needed to finance soldiers, fortresses and ships. As the theologians concluded, "it is suitable for the necessary and natural defence of the *Estado da Índia* to allow the passage and selling of these horses to the said infidels".[37]

In 1575 there was a follow up to these polemics, when the second Provincial Council of Goa gathered, under the direction of the much stricter Archbishop Dom Gaspar de Leão, to define the moral and religious principles that were to rule daily life in the *Estado da Índia*. One of the new decrees established that the Goan Christians were not allowed to take horses to the "infidels" in the Indian hinterland, on account that such practice, which until then had been frequent, caused "much spiritual and physical suffering". Goans who disobeyed the Council's rulings were deemed unworthy of the Christian name and were condemned to the confiscation of all their horses. Likewise, the Christians could not enter into partnership with local Muslim merchants to trade in horses with the territories of the "infidels".[38]

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[34]   Josef Wicki and John Gomes (eds.), *Documenta Indica*, 18 vols. (Rome: Institutum Historicum Societatis Iesu, 1948-1988), II, p. 130.
[35]   Ibid., II, pp. 186-188.
[36]   Ibid., X, p. 469.
[37]   Maria Augusta Lima Cruz, *Diogo do Couto e a Década 8ª da Ásia*, 2 vols. (Lisbon: Imprensa Nacional, Casa da Moeda, and Comissão Nacional para as Comemorações dos Descobrimentos Portugueses, 1993), I, p. 420.
[38]   António da Silva Rego (ed.), *Documentação para a história das missões do Padroado Português do Oriente*. 12 vols. (Lisbon: Agência Geral do Ultramar, 1949-1958), XII, pp. 306-307.

FINAL OBSERVATION

During the second half of the sixteenth century, the Portuguese Church and its many institutions inside the *Estado da Índia* gradually adopted more conservative positions in all matters related to the non-Catholic world. These developments mainly had to do with the spread of Protestantism in Europe. But by then, in India, traffic in horses passing through Goa had already thinned considerably, because one of the major clients of that trade, the empire of Vijayanagar, had left the scene in the late 1560s, after the battle of Talikota. Therefore, it appears plausible to assume that these events – and not necessarily the religious contest in Europe – were the principal reasons behind the many discussions which took place in Goa during that period. By 1580, revenues originating from the horse trade in Goa amounted to no more than about four percent of the Crown's total revenues,[39] when in the first decades of the century they had reached "about half the total revenue".[40] As an anonymous Portuguese observer wrote in 1582, "the trade in horses has been decreasing steadily".[41]

Yet, horses continued to arrive from Hormuz, because the Portuguese themselves continued to generate a steady demand for good animals. Contemporary witnesses testify that there were in Goa many "Cavalli di Arabia e Persia pretiosissimi ma cari", as the Jesuit Francisco Pasio wrote in 1578.[42] And a later French traveller, François Pyrard de Laval, who visited Goa in the early seventeenth century, stressed in his travelogue that "the Portuguese men of substance always go on horseback, because they have a large number of horses that come from Persia and Arabia, that are fine and good horses".[43] But that is an entirely different story.

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[39] Artur Teodoro de Matos, *Na Rota da Índia – Estudos de história da expansão portuguesa* (Macau: Instituto Cultural de Macau, 1994), p. 68.

[40] Pearson, *Coastal Western India*, p. 70.

[41] Francisco Paulo Mendes da Luz (ed.), *Livro das cidades e fortalezas que a Coroa de Portugal tem nas partes da Índia* (Lisbon: Centro de Estudos Históricos Ultramarinos, 1960), fl. 13v.

[42] Wicki and Gomes, *Documenta Indica*, XI, p. 364.

[43] François Pyrard de Laval (author), Xavier de Castro and Geneviève Bouchon (eds.), *Voyage de Pyrard de Laval aux Indes orientales (1601-1611)*, 2 vols. (Paris: Chandeigne, 1998), p. 598.

Equestrian Demand and Dealers: The Early Indian Scenario
(up to c. 1300)

Ranabir CHAKRAVARTI[1]

I

The economic historiography of early India has recognized in recent decades the importance of trade and transactions in the making of the subcontinent's history which is often labeled as 'traditional' because of its predominantly rural and agricultural nature, rendering it with seemingly unchanging and immutable features over millennia. There is little controversy that the bulk of the Indian population, like that of the present, was engaged in agriculture, and therefore, those participating in the non-agrarian sector of the economy – like the merchants – formed a minority.[2] Even when the merchant is recovered from this historiographical marginality, discussions on the protracted history of commerce in the subcontinent generally revolves round a few beaten tracks: routes of communications (overland and sea-borne), items of trade – especially the sustained demand for Indian textiles, spices, ivory and precious gems and stones (e.g. pearls and diamonds) – professional bodies of merchants, coins and other media of exchange and suchlike. The steady importation of precious metals (e.g. gold and silver) and exotic spices / fragrances (cardamom, cinnamon, camphor, etc.) also loom large in the current literature on this subject. Many of these items being either agro-based and manufactured (handicraft) commodities, elaborate analyses of transactions in these goods also speak of the intimate linkages among the agrarian milieu, crafts production and commercial networks. All these have considerably enriched our understanding of the lively and changing patterns of commercial activities in the subcontinent during its 'early' phase (up to c. 1300 AD). One particular aspect, however, has so far received relatively less attention from the experts: the demand for and transactions in some domesticated animals which were considered extremely useful, especially to the well- off and powerful stratum in early Indian society. Needless to say, the cattle were absolutely indispensable to the teeming and ubiquitous Indian farmers. But there were also other domesticated animals serving the non-agrarian sector of the economy, often as beasts of burden; also for pulling or drawing wheeled vehicles over long distances to transport merchants and their merchandise; occasionally as mounts for pre-eminent and charismatic people for whom the animals were visible symbols of their power and prestige; and last but not least, animals associated with offensive-defensive operations. To this category would belong the donkey, the camel, the elephant and the horse, the last one being the principal subject of enquiry here.

The elephant and the horse stood in the center of prestigious and grand possessions – and, simultaneously, constituted a marker of the rich and noble. Often hidden from the ornamental eulogies of rulers and accounts of the fabulous wealth of merchants in ancient sources, there remains a different reality: these animals were reared, nurtured and procured for their ultimate users by herders and animal-breeders who often led a pastoral way of life, and hence were far removed, both spatially and culturally, from the sedentary society in rural and urban settlements alike. The sedentary sector assumes an overwhelming proportion in the history of a complex society such as that in India, while the non-sedentary groups like the hunter, the gatherer and the pastoralist often remain outside the gaze of historians. The availability and supply of elephants and horses to their users in a sedentary society involve a complex network of relationships and interaction among the pastoral communities, the wealthy clientele and those who enabled the delivery of these animals to their

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users. A discussion on the trade and traders in horses in early India therefore asks for an enquiry beyond the sedentary society. Though concrete linkages of the sedentary society with the pastoral world are only dimly visible in the case of India, the mobility of the pastoral groups and animal breeders (e.g. the *yoniposhakas* in the *Kautiliya Arthasastra*[3]), often along well-established and seasonal circuits, must have contributed to their regular communications and contacts with the sedentary society. While this may have conceptual validity, empirical substantiation in this regard is virtually impossible as our sources, mostly formal and written, rarely address the non-sedentary communities, located beyond cities and villages. Even when such non-sedentary groups figure in textual and epigraphic sources, they are presented at the most as a marginal entity to the mainstream agrarian society that consistently looks at pastoral and nomadic people and forest-dwellers with conspicuous contempt.[4]

It may be in order here to state a few preliminary points about the horse in India. The horse is indeed the fastest and the most prized means of communication prior to the advent of the Industrial Age that ushered in steam locomotion and petroleum-driven combustion engines. Yet, the most sought after horse, namely the top quality warhorse, was not indigenous to India. The best horses were brought to the subcontinent from elsewhere, beyond the subcontinent; what we discuss here is therefore essentially the importation of horses in India during the early period. The logical point that emerges from here is this was a trade in a scarce, precious and exotic commodity that catered to the needs and tastes of the elite groups, especially the political elite.[5] One major impediment to this study is the problem of the nature of sources, something beyond the proverbial paucity of written sources of early India history. Empirical gleanings are rarely from the actual and direct statements / documentations on trade and traders in horses per se; relevant notices are often marginal to the principal content and purport of the sources; quantified data on trade in horses, so vital to the understanding of the 'horse economy', are a rarity in the range of our sources.

II

Several claims (some of dubious intention and methodology) of finding the presence of the horse in the first urban society in the subcontinent during the Harappan civilization notwithstanding, it is impossible to locate the horse in the Indian scenario – archaeologically and textually – prior to the second half of the second millennium BC. Although the antiquity of the domestication of the horse takes us back to Central Asia in c. 3500 BC, the animal does not figure in Indian literary tradition prior to the *Rigveda*, the earliest stratum of the Vedic corpus (c. 1500-1000 BC). The *Rigveda* shows a familiarity of the composers of the hymns with the areas watered by the river Indus and its tributaries, both to the west and east of the Indus. The text leaves a strong impression that its material life revolved around pastoralism, though agriculture was not unknown. The most important social wealth was cattle (*go*), closely followed by the significance attached to the horse (*asva*, Iranian *aspa*). While words connected with cattle occur as many as 175 times in the *Rigveda*, terms related to agriculture (*krishi*) figure merely on 21 or 23 occasions in the said text.[6] In a society that was yet to be organized on the strict fourfold *varna* divisions, social life was organized into clans and tribes under chiefs and leaders who were often engaged in clashes and hostilities. One of the principal aims of engaging in war during the Rigvedic times was the capture of cattle and horses which were highly prized as war booties, a feature that typifies the attitude of a predominantly pastoral (or at the most an agro-pastoral) society. The composers of Rigvedic hymns showered praises on various divinities, particularly Indra (king of

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3   *Yoniposhakas* figure in the *Arthasastra* (ed. and tr. with a study by R. P. Kangle in three parts, Bombay, 1966-1972), VI.2; the term is explained in the English translation of the text (part II) and also in part III of the work by Kangle.

4   The Maurya emperor's stern warning to the forest dwellers (*atavikas*) in his rock edict XIII is a case in point. For the text see D. C. Sircar, *Select Inscriptions Bearing on Indian History and Civilization*, vol. I (Calcutta, 1965), pp. 45-48. For an analysis see Romila Thapar, *Asoka and the Decline of the Mauryas* (New Delhi, 1996; second edition), especially the chapter on society and the economy.

5   Jos Gommans, "The Horse Trade in Eighteenth Century South Asia", *Journal of the Economic and Social History of the Orient* (now *JESHO*) 37 (1994), pp. 228-250, shows how the English East India Company's efforts to run a stud farm in Pusa (Bihar) proved abortive in the late eighteenth and early nineteenth centuries.

6   R. S. Sharma, *Material Culture and Social Formations in Ancient India* (New Delhi, 1983).

gods) so that they helped human warriors defeat their enemies and capture the coveted booties.[7] A typical case in point is the following Rigvedic account:

> Yamuna and the Tritsus aided Indra. There he stripped Bheda bare of all his treasures. The Ajas and the Sigrus and the Yakshus brought in to him as tributes heads of horses.[8]

> Paved with the rock is our treasure chamber, filled full of precious things, of kine and horses.[9]

Rigvedic hymns furthermore leave little room for doubt that horse-drawn chariots added to the efficacy of fighting forces, though cavalry does not figure therein. The intimate linkage of the Rigvedic society with the northwestern part of the subcontinent and the region around Afghanistan appears to have facilitated a steady supply of horses for speedy communications and wars in the Indus plains. There is little surprise that the *Rigveda* gives prominence to the chariot-maker (*rathakara*) who, one may logically perceive, should have been conversant with the horse that would pull the wooden chariot manufactured by him.[10] The emergence and consolidation of a full-fledged sedentary society in the later Vedic times (c. 1000-600 BC) in the upper Ganga plains did not diminish in any way the significance of and demand for this animal. On the threshold of the state system, the later Vedic polity further highlighted the power and pre-eminence of the chieftain (*raja*) who was expected to perform elaborate Vedic sacrificial rituals to claim and gain a super-ordinate political status.[11] Two such sacrifices, the Vajapeya and the Asvamedha, revolved around the horse. The former included a mock chariot racing in which the sacrificing ruler would be made the winner. The imaginary victory of the would-be ruler in this mock chariot race may symbolically hark back to the remote memory of a time when chiefship of a tribe or clan in the Indo-European world could have been decided by winning a horse-driven chariot race. The second and more famous ritual required the formal letting loose of an auspicious horse from the chief's area for a year during which period it was expected to roam around unopposed through other chieftains' areas. This act symbolized the suzerainty of the sacrificer over other chiefs. The ritual ended with the sacrifice of the horse amidst very elaborate and prolonged Vedic rituals. The horse sacrifice accomplished, the sacrificing ruler claimed a superior position to his neighbouring powers.[12] The situation speaks of the growing availability of horses in the Ganga plains, brought there most probably from the northwestern part of the subcontinent. The efficacy of the horse in warfare and communication and in enhancing the prestige of the Vedic ruler now well established, there emerged professional groups taming or keeping horses. Labelled as *asvapas* (keeper, maintainer of horses) they probably functioned as professional trainers as well. Such horse- trainers appear in the longest and most elaborate list of professionals in the Vedic literature, namely in the *Vajasaneyi Samhita* (c. 750-700 BC). Interestingly enough, they were differentiated from elephant tamers or elephant-keepers (*hastipa*) and hunters in general (*mrigayumantakas*). The image of the social requirement of specialist trainers and keepers of horses gains some visibility in such accounts.

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[7]   Ibid., and Ranabir Chakravarti, *Warfare for Wealth: Early Indian Perspective* (Calcutta, 1986), especially the chapter 'Clashes for Cattle' therein. It is significant to note, as pointed out by Sharma, that the Rigvedic ruler bore the epithet *gopati* or "lord of cattle"; it is only subsequently that the early Indian king assumed epithets like *bhupati* (lord of the soil), *nripati* (lord of men) and *mahipati* (lord of the earth). See R. S. Sharma, *Aspects of Political Ideas and Institutions in Ancient India* (New Delhi, 1996; third edition), especially the essay, "From Gopati to Bhupati".

[8]   *Rigveda* VII.18.19, tr. by R. T. Griffith (Varanasi, 1963; fourth edition).

[9]   *Rigveda* X.108.7. For these tribes (*jana, vis*) mentioned above, see A. A. McDonell and A. B. Keith, *The Vedic Index of Names and Subjects*, 2 vols. (Varanasi, 1962; reprint); *jana* in vol. I and *vis* in II.

[10] The Central Asian Ural Bronze Age site Sintashta has yielded fascinating evidence of horse sacrifices along with bronze implements. The site has been dated to the period of c. 2000 to 1700 / 1600 BC. It was occupied by a pastoralist group. I am grateful to Dr. David Antony and Dr. Dorcas Brown for sharing their information about Sintastha with me at the Institute for Advanced Study, Princeton, in 2006 even before their major publication on this subject . There are a few easily accessible websites giving basic information about Sintashta.

[11] Various references in Romila Thapar, *From Lineage to State* (Bombay, 1984); R. S. Sharma, *The Origin of the State in India* (Bombay, 1990).

[12] For an elaborate analysis of these Vedic sacrifices, see U. N. Ghoshal, *A History of Indian Political Ideas* (London, 1966); also, Kumkum Roy, *The Emergence of Monarchy in North India* (New Delhi, 1996).

The advent of the territorial polities (*mahajanapadas*) – mostly monarchies – for the first time in the sixth century BC in the greater parts of the Ganga valley brought about major changes to Indian society and politics. Parallel to the development of state society there also emerged urban centres in northern India which saw a significant proliferation of crafts and commerce. The Buddhist canonical texts and field archaeological data speak eloquently of the development of new urban economies, including the expansion of trade networks. In marked contrast to Vedic and Brahmanical traditions, the Buddhist and Jaina texts (*kraya*) show a positive attitude to trade and merchants.[13] The great Sanskrit grammarian Panini (c. fifth to fourth centuries BC) too was clearly aware of the importance of trade (*vyavahara, kraya-vikraya:* transactions, purchase and sale) as one of the important components of burgeoning urban life. Illustrating grammatical rules with examples drawn from existing situations and experiences, Panini refers to various types of merchants. For the first time one encounters here two specific merchants, dealing in domesticated animals, the dealer in cattle (*govanija*) and the trader in horses (*asvavanija*).[14] Hailing from the northwestern part of India, Panini seems to have been aware of the availability of quality horses in this region and the presence of merchants specializing as horse-dealers.

The demand for horses is likely to have increased with the consolidation of monarchical polities that commanded regular fighting forces. For the first time in Indian history, cavalry appeared as one of the established wings of the army of a monarchical polity. That cavalry formed a regular component of various Indian armies in the late fourth century BC is evident from the accounts of Alexander's encounters with Indian powers. The most formidable power in northern India, the kingdom of Magadha in the middle Ganga plains (described as the kingdom of Gangaridai) with its capital at Palibothra (Patna, in Bihar), is said to have possessed 80,000 horses (cavalry) in addition to 8,000 war chariots and a huge infantry.[15] Even allowing for some obvious exaggeration in these figures (possibly to impress the strength upon a likely adversary), the Greek accounts did not miss the growing need for the supply of horses for the eastern Indian powers such as Magadha. It is in this background that one ought to situate Panini's knowledge about horse-dealers and the significance of the Gandhara region as a conduit for the supply of this coveted war-animal from the northwestern borderland of the subcontinent. With Vedic sacrificial rituals gradually losing their centrality in socio-political life during the post-600 BC days, it is very likely that more domesticated animals, including horses, became available now for purposes other than being killed at the Vedic sacrificial altars.

The expansion of Magadhan power reached its peak during the days of the Mauryan empire (c. 324-187 BC), the first power to have achieved a nearly pan-Indian political paramountcy, largely due to its invincible military machinery, a strong administrative system and an effective ideology of shaping an integrated subcontinental society. The Maurya army was not only vast, but also had a large contingent of cavalry, chariots and elephants along with a very sizeable infantry organized in separate units, as Megasthenes, the Seleucidian envoy to the Maurya court tells us. The Classical accounts further enlighten us on a specific board of five administrators looking after the different units of the army, including the cavalry.[16] This has a bearing on the recommendation in the celebrated treatise on statecraft, the *Kautiliya Arthasastra*, for setting up specific administrative departments for both cavalry (*asvadhyaksa*) and chariots (*rathadhyaksha*) headed by high-ranking state functionaries. This is the first known instance of a prescription for setting up

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[13] Trade was thus lauded in the Buddhist canonical text as an excellent profession (*ukkatthakamma*) , fit for persons born into excellent families. See, N. Wagle, *Society at the Time of the Buddha* (Bombay, 1967), especially chapter V of this book.

[14] V. S. Agrawala, *India as Known to Panini* (Lucknow, 1951), pp. 238, 239 and 247; see Panini's sutra VI.2.13 (*gantavya panyam vanijye*). Panini seems to have been aware also of merchants in Gandhara (*gandhari-vanija*) and Madra (*Madra-vanija*), both areas noted for the availability of good quality horses.

[15] R. C. Majumdar, *Classical Accounts of India* (Calcutta, 1960), p. 198 (Plutarch's statement in the *Life of Alexander*, chapter LXII). The kingdom of Gangaridae is generally identified with the Nanda realm which made Magadha the premier power in North India. See K. A. Nilakantha Sastri (ed.), *The Age of the Nandas and Mauryas* (Calcutta, 1952).

[16] J. W. McCrindle, *Ancient India as Described by Megasthenes and Arrian* (Amsterdam, 1971; reprint), p. 55. There were, according to Megasthenes' observation, in all thirty functionaries – divided into six boards – that looked after the military administration of the realm.

administrative departments for the procurement and maintenance of horses, obviously with a view to strengthening the army.

Though Kautilya does not speak explicitly on horse-dealers, he demonstrates his awareness that best quality (*uttama*) horses – in other words, war-horses – came from the northwestern and western extremities of the subcontinent, and even from lands beyond the subcontinent: Kamboja (the Hazara area in Pakistan), Sindhu (the lower Indus valley), Aratta (the northern plains of the Punjab), Vanayu (Arabia), Bahlika (Bactria around the present Mazar-i-Sharif in Afghanistan) and Sauvira (the area adjacent to Sindhu in the lower Indus valley). The horses from Saurasthra on the Kathiawad peninsula of western India failed to impress the theoretician who dubbed them as belonging to an inferior breed.[17]

What strikes us here is his recognition that the supply of best war-horses came from Arabia and Bactria, the latter area geographically and culturally better linked up with Central Asia than with South Asia. The occupation of some parts of the northwestern sector of the subcontinent by the Acheaminid rulers of Iran (c. late sixth to late fourth centuries BC) and the Macedonian incursion (327-324 BC) paved the way for interactions between South Asia and West Asia. This was continued in the Maurya times. The inclusion of Kabul (Paropaniasadae), Kandhar (Arachosia) and Baluchistan (Gedrosia) in the Maurya empire is evident from the Classical accounts and also by the discovery of Asoka's edicts from Afghanistan.[18] Eratosthenes, a younger contemporary of Asoka, speaks of a royal road that connected Susa in Iran with Palibothra, the Maurya capital. That this road passed through northern Afghanistan is confirmed by the discovery of two Asokan edicts from Laghman, specifically referring to a royal road (*karapathi*).[19] The expansive contacts – both commercial and cultural – of the Maurya empire with West Asia seems to have enabled the Maurya rulers to avail themselves of imported horses from areas beyond the subcontinent, a point well appreciated in the *Arthasastra*.

No less significant is Megasthenes' observation on the herders and hunters of India (the third group in his seven-fold classification of Indian people) who were required to pay a portion of their domesticated and hunted animals as their due / tribute to the state.[20] This in a way suggests the Maurya emperor's interests in appropriating some resources from the pastoral, nomadic and hunting groups, which certainly lived beyond the agrarian sedentary society, the principal resource base of the empire.[21] But for the regular interactions with these nomadic and pastoralist groups, the likely breeders and suppliers of domesticated animals, the Director of Horses / Cavalry (*asvadhyaksha*) could not have prepared, as per the *Arthasastra* guideline, meticulous details of different grades of horses fit for the royal military establishment. In the recommendations of the *Arthasastra* an impression was seen earlier of a monolithic and unitary Maurya state system that intended to assume a managerial role and impose a strict control on the supply of horses. This reading, however, is open to question when other sources are taken into consideration; it is therefore unlikely that the Maurya state exercised a monopoly control on the import trade in horses.

III

The northwestern areas of the subcontinent experienced remarkable cultural, commercial and political linkages with Central and West Asia from 200 BC, with the successive political control of the Bactrian Greeks, the Sakas, the Pahlavas and the Kushanas over this area. Particularly significant was the rule of the Kushanas from their principal stronghold in Bactria (capital Bactra, modern Mazar-i-Sharif, Afghanistan),

[17]   *Kautiliya Arthasastra*, see the section on Asvadhyaksha (II, 30).

[18]   B. N. Mukherjee, *Studies in the Aramaic Edicts of Asoka* (Calcutta, 1984).

[19]   Ibid., especially the two edicts from Laghman.

[20]   McCrindle, *Ancient India*, p. 42

[21]   Romila Thapar, *The Mauryas Revisited* (Calcutta, 1987); G. Bongard Levin, *Mauryan India* (New Delhi, 1985). The Mauryan state control on economy, including trade, figures prominently in U. N. Ghoshal, *A History of Indian Public Life*, vol. II (Bombay, 1966) and R. S. Sharma, *Perspectives in the Social and Economic History of Early India* (New Delhi, 1983). The Mauryan interests in the pastoral and forest resources and trade may be seen in the inclusion of *vraja* (pasture grounds) and *vana* (forests) and *vanikpatha* (trade routes) in the seven heads of revenue in the *Arthasastra* (II.6). Megasthenes (McCrindle, *Ancient India*, p. 43) also emphasizes the revenue yielding potentials of pastoralists and forest dwellers to the Maurya state.

extending to the Oxus in the north, considerable parts of the southern Silk Road, Kashmir, the northwestern borderlands of the subcontinent and over the western parts of the Ganga plains (c. first century BC to 262 AD). This period in Indian history is noted for an unprecedented increase in long-distance trade contacts with the eastern Mediterranean both by overland and maritime communications.[22] The political expansion of the Kushana rule over vast stretches of areas in Central and South Asia facilitated movements of merchants and commodities from the Silk Road network to the subcontinent through the northwestern corridor. This new situation left its mark on the import of coveted horses to India.

Further light is shed on the scenario by archaeological materials from the Karakorum highways, thanks to the researches by Karl Jettmar and his Pakistani and German colleagues.[23] Several sites like Thalpan Bridge, Shatiyal, Chilas have yielded wonderful rock-engravings of horses and men accompanying them – possibly dealers wearing obviously non-Indian clothing. Coupled with these images of horses and possible dealers, diverse inscriptions in Chinese, Sogdian, Prakrit (written in both Kharoshti and Brahmi) are also visible. The area was thus a point of convergence for South Asian, Central Asian (especially Sogdian) and Chinese merchants. An engraving at Chilas II depicts four horses, three being held by a rope (but one without a rope) by men wearing trousers, boots, tunics and headgear with broad brims. The horses and men stand before a Buddhist *stupa* which the travellers must have been approaching. Another scene delineates a person in a long heavy coat and trousers with an incense burner venerating a *stupa*. Flanking him is a figure of a horse, shown in small dimension. Another male figure is engraved above wearing a belted garment, holding a jug and a small flag in his two hands. The association of horses and people attired in Central Asian dress with the Karakorum highway cannot but suggest that these horse merchants reached the northern part of Kashmir from either Kashgarh or Khotan on the southern Silk Road. This connectivity was not known before. The main advantage lies in the shortening of the route which otherwise had touched Bactra, and from there to Kabul and the urban centres of Peucalotis (Pushkalavati, the site of Charsadda) to the west of the Indus and Taxila to the east of the Indus as the principal points of entry to the Punjab plains. This short-cut, though extremely hazardous, is likely to have increased the supply of the coveted Central Asian horses to the North Indian plains. It has been suggested that this new overland network probably corresponded to the Jibin (Kashmir) route figuring in the Annals of the Han dynasty.[24]

These rock-engravings clearly associate the itinerant merchant, especially the non-indigenous one, with Buddhism. The period under review witnessed the immense popularity of Mahayana Buddhism that spread to Central Asia from the northwestern sector of the subcontinent. Liu Xinru notes the association of horses with the Buddhist preachers who were among the early missionaries to China. An illustrative case, in her opinion, is the White Horse Monastery in Luoyang, so named after the legend of a white horse that carried Buddhist manuscripts there from the Indian subcontinent. The positive attitude of Buddhism to trade and merchants is well known; the point was further elaborated in the celebrated *Saddharmapundarika* sutra and the *Mahavastu-avadana* where the Buddha assumes the role of a saviour of merchants, especially the itinerant ones. The Buddha, according to the *Saddharmapundarika* (III: 70-93), rescued five hundred merchants in the form of the heavenly horse, Kesin. It is therefore in the fitness of things that images of horses and horse-dealers appeared in the rock engravings along with the visuals of *stupa* worship. In other words, Mahayana philosophy offered the message and hope that worshipping the Buddha and / or patronizing the Buddhist monastery brought tangible benefits for the believer. It is well known that many donors were merchants who had enough resources to render material support to the monastery; such resourceful donors were doubtless well-off persons. Among the wealth of a country *brahmana*, notes the

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[22]   B. N. Mukherjee, *The Rise and Fall of the Kushana Empire* (Calcutta, 1989); Elizabeth Errington and J. Cribb (eds.), *At the Crossroads of Asia* (Cambridge, 1993); L. Bulnois, *The Silk Road* (London, 1966); Vimala Begley and Richard Daniel de Puma (eds.), *Rome and India, the Ancient Sea Trade* (New Delhi, 1992; reprint).

[23]   Karl Jettmar (ed.), *Antiquites from Northern Pakistan*, especially vol. II (Munich, 1989). In this volume G. Fussman offers improved readings of some of the inscriptions that originally appeared in A. H. Dani, *Chilas, a City of the Nanga Pabat* (Islamabad, 1985).

[24]   E. Zurcher, "The Yueh Chih and Kanishka in Chinese Literature", in A. L. Basham (ed.), *Papers on the Date of Kanishka* (London, 1968).

Mahavastu, were treasures, granaries and various domesticated animals, including horses. In a similar manner, the signs for wealth associated with the leader of a *sreni* (a professional body of craftsmen and / or merchants) were money, treasures, granaries, precious metals and horses, among other possessions.[25] Thus even in Buddhist philosophical texts, horses appear as a tangible wealth in the possession of a *brahmana* in the countryside and a skilled professional – possibly an urbane person – alike. The horse, therefore, was not merely a marker of the political elite, but was available for possession by any resourceful person.

At the same time it is true that horses were invariably associated with the power and prestige of rulers. Among the seven jewels of the universal ruler (*chakravarti*), according to the *Mahavastu*, was the horse (*asva*). Liu rightly argues that the horse along with six other jewels symbolized the early Buddhist view of the sovereignty of the state.[26] Such a situation as this could not have materialized but for the regular and increased supply of horses through the overland trade in the northwestern part of the subcontinent. The horse of course continued to be depicted visually and narrated textually as a symbol of royalty, as will be evident in the visual representations of royal chariots in processions in the art of the northwest, at Sanchi in central India and in the Amaravati school of sculptures in the Deccan.[27]

Horses began to appear regularly in the terracotta art of the Bengal delta from this period onwards, particularly from two archaeological sites, Chandraketugarh and Tamluk, both well known ports. Chandraketugarh has yielded a few inscribed terracotta seals and sealants, palaeographically assignable to the first three centuries AD, with representations of sea-going vessels.[28] One sealing (No. DA. WB. CKG 180) shows not only a single-masted ship, but the figure of a standing horse on the right hand field of the sealing and near the right-hand edge of the figure of the ship. The horse is shown in profile, with its head towards the mast; its mouth, an ear and an eye are also visible The neck of the horse figure is treated in a somewhat elongated manner. Its hind legs and tail are also depicted.[29] The artist / craftsman has deliberately enlarged the figure of the horse, in relation to the overall composition of the scene of the sealing, probably to draw attention to the figure of the animal. This is the earliest known Indian documentation of the shipping of horses from or to an Indian port. Surely used for the authentication of commercial consignments, the seal / sealing is a trade and administrative mechanism. It therefore establishes the importance of the Bengal coast in the equestrian trade, more importantly its role in the maritime trade in horses, an aspect not known before.[30] The horse, on the other hand, was certainly not indigenous to Bengal. It must have reached Bengal in the context of the sustained supply of imported Central Asian horses into the Ganga plains. That northwestern people frequented the Bengal delta is illustrated by the terracotta seals and sealings with inscriptions in Kharoshti, a script primarily current in the northwestern extremes of the subcontinent.

But what is the significance of the maritime transportation of horses in the Bengal coast? Drawing upon the third century AD account of Kang Tai, B. N. Mukherjee suggested that Yuezhi merchants (either Kushana merchants or merchants in the Kushana realm) exported horses by ships to Geying or the Malay peninsula. For such shipments of horses to a Southeast Asian destination the Bengal coast was ideally located as this was the only eastern outlet to the sea in the otherwise land-locked Ganga valley.[31] In addition

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[25] Liu Xinru, *Ancient India and Ancient China, AD 1-600* (New Delhi, 1988), pp. 83, 88, 101.

[26] Ibid., p. 101. The other six jewels are: *chakra* (wheel), *hastin* (elephant), *mani* (gem), *stri* (wife / queen), *gahapati* (rich landlord, involved in trade also) and *parinayaka* (minister).

[27] See J. M Rosenfield, *The Dynastic Art of the Kushansi* (Berkeley, 1967); Niharranjan Ray, *Maurya and Post Maurya Art* (New Delhi, 1975; second edition).

[28] B. N. Mukherjee, "Kharoshti and Kharoshti-Brahmi Inscriptions from West Bengal, India", *Indian Museum Bulletin* 25 (1990). The Chandraketugarh materials are now also available in Enamul Haque, *Chandreketugarh* (Dhaka, 2002).

[29] For this seal, now preserved in the Museum of the Directorate of Archaeology, Government of West Bengal, Kolkata, see, Mukherjee, "Kharoshti and Kharoshti-Brahmi Inscriptions", pp. 44-45, 45-46 and 47-48.

[30] This was first pointed out by Ranabir Chakravarti, "Maritime Trade in Horses in Early Historical Bengal: A Seal from Chandraketugarh", *Pratnasamiksha* 1 (1992), pp. 155-160. He has also discussed it in his *Trade and Traders in Early Indian Society*, pp. 120-121. Also see his "Seafarings, Ships and Ship-owners: India and the Indian Ocean (AD 700-1500)", in David Parkin and Ruth Barnes (eds.), *Ships and the Development of Maritime Technology in the Indian Ocean* (London, 2002), pp. 37-38, figure 2.1.

[31] B. N. Mukherjee, *Economic Factors in Kushana History* (Calcutta, 1970).

to the possible transportation of horses from the Bengal coast to Southeast Asia, the other possible candidate for a destination could be coastal Tamilnadu. The earliest Tamil heroic poetry, the Sangam literature, eulogises valiant war heroes of the Chola, Pandya and Chera clans who were engaged in endemic clashes. In this context the poetic account of the arrival by ship of excellent steeds in the famous port of Kaveripattinam (in the Kaveri delta) should be situated.

> Milk white maned horses arrive with riches from the north, in ships standing out in the cool ocean by the sea front (*Perurumpanarruppatai* description of Nirppeyar, lines 319-24)

> Warhorses that came by sea….. The produce of the Ganges basin and Kaveri valley (*Pattinappalai* description of Puhar, lines 185-91).[32]

There is little possibility of horses reaching the premier Coromandel coast port by ships from the Persian Gulf or the Red Sea for the simple reason that Classical texts like the *Periplus Maris Erythraei* never speak of the horse as an item of overseas import from the 'West'. A perusal of the *Periplus*, Ptolemy's *Geography*, and the distribution of the Rouletted Ware sites all along the eastern seaboard of India very strongly suggests a lively coastal network connecting the Coromandel coast with the Bengal delta.[33] It would be logical, therefore, to look towards the Bengal coast as the likely source of supply of horses to the Kaveri delta. The Bengal coast thus plays a crucial role in the horse economy of a far-flung area. It appears to have received a handsome number of northwestern horses; some of these imported horses were then further re-exported to Southeast Asia; others went to a southern destination bound for ports in the Coromandel area where some demands for war horses surfaced because of the changing political scenario. No other area in the subcontinent than Bengal was involved in such complex three-pronged transactions in horses.

IV

The horse economy of South Asia during the post-500 AD days became more complex and attained a greater visibility in our sources. The ensuing eight centuries since 500 AD experienced an unprecedented degree of proliferation of monarchical states, not merely restricted to areas of attraction like the Ganga valley and / or the Deccan plateau, but emerging in many erstwhile fringe areas (like Kashmir, Kamarupa, central Indian forest tracts, etc.) too. Most of these were local and regional powers or at some time regional imperial powers, but not commanding a paramount position for a protracted period over North India or the Deccan or the far South.[34] These powers were engaged in endemic hostilities; military encounters went on unabated for centuries over certain regions amidst and in spite of dynastic shifts and upheavals. The attendant increase in the demand for warhorses for the cavalry is understandable. While this was a major additive change in the horse economy, there occurred also a substitutive change, perhaps more significant, in the pattern of the import trade of horses into South Asia. Till the end of the first millennium, the nearly perennial source of the imported warhorses was the northwestern borderlands of the subcontinent that received steady supplies of Persian and Central Asian horses. From 1000 onwards, horses began to be brought to India by overseas

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[32] R. Chamapakalakshmi, *Trade, Ideology, Urbanization: South India 300 BC-AD 1300* (New Delhi, 1996), has drawn our attention to the importation of horses by sea in the above two quotes from her book (pages 107, 129). However, she did not suggest that such horses could have reached Coromandel from the Bengal delta.

[33] Chakravarti, *Trade and Traders*, especially the chapter on "Maritime Trade and Voyages in Ancient Bengal". For the distribution of the Rouletted Ware, see Vimala Begley, "Ceramic Evidence of pre-Periplus Trade on the Indian Coast", in Begley and de Puma (eds.), *Rome and India*, pp. 157-196. The easternmost site yielding Rouletted Ware is Wari Bateswar, near Dhaka, Bangladesh. See Dilip K. Chakrabarti, *Ancient Bangladesh* (New Delhi, 1992).

[34] Hermann Kulke (ed.), *The State in India, AD 1000-1700* (New Delhi, 1994); also B. D. Chattopadhyaya, *The Making of Early Medieval India* (New Delhi, 1993). The proliferation of regional powers is seen as a feature of feudal polities by R. S. Sharma, *Indian Feudalism* (New Delhi, 1980; second edition). Also see, D. N. Jha (ed.), *The Feudal Order* (New Delhi, 2000). The general account of dynastic warfare during this phase is available in R. C. Majumdar (ed.), *The Age of Imperial Kanauj* (Bombay, 1968); R. C. Majumdar (ed.), *The Struggle for Empire* (Bombay, 1970); K. A. Nilakantha Sastri, *A History of South India* (Bombay, 1966).

transportation from both the Persian Gulf and the Red Sea areas, opening up the possibility of delivering large numbers of horses by ship to meet the growing equestrian demand.

The overland network was never given up, but the preference for maritime import trade in horses is unmistakable in the post-1000 scenario, a point we shall take up later for discussion. For the availability of fine warhorses North Indian powers generally looked for the traditional supply zone: the northwestern area. The Pala rulers of Bihar and Bengal (c. 750-1150) consistently considered the northern sector (*udichi*) as the primary supply zone for their invincible and countless cavalry (*aprameya hayavahini*); such eulogistic expressions glorifying rulers in Sanskrit court poetry may be standardized and exaggerated, but these also underline how coveted the warhorses of the northern quarter were to a major regional power of eastern India.[35] In 883 AD there assembled (*samayata*) at the town of Prithudaka (modern Pehwa, Karnal district, Haryana) as many as thirty four horse-dealers hailing from nine areas on the occasion of a horse-fair (*ghotakayatra*).[36] They were:

From Chutavrshika
1-3. Bhatta Virukas' sons Vandya, Rajula and Valluka
4. Ranuka's son Rajyasiha.

From Utpalika
5. Bhalluka's son Mangaka
6. Chinha's son Choranaka

From Chikkariselavanapura
7. Dada's son Kalluka
8. Kalluka's son Jayaraka
9. Vishnu's son Adityaraka
10-11. Rajjuka's sons Chihna and Rangaka
12. Kalluka's son Vanuka

From Baladevapura
13. Khambhata's son Hoddha
14. Mriganka's son Viddaka
15. Kesava's son Dhanuka
16. Khangaka's son Vamuka
17. Manikka's son Uehari

From Sarankatidaka
18-19. Nara's sons Lohata and Sankara
20. Valluka's son Isvaraditya

From Siharudukkaka
21. Ullaka's son Vachchaka
22. Jayadharaka's son Ranika
23. Sura's son Pragada

From Traighataka
24. Dharata's son Chanda
25. Ekagoraka's son Savva

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[35] Ranabir Chakravarti, "Early Medieval Bengal and the Trade in Horses: A Note", *JESHO* 42 (1999), pp. 194-211.
[36] G. Buhler, "The Pehwa Inscription in the Temple of Garibnath", *Epigraphia Indica* (now *EpInd*), I (1882), pp. 184-190.

26. Devasarmman's son Phampha
27. Vagguaka's son Kammika

From Ghamghaka
28. Lallika's son Svamiraka
29. Simghuka's son Siha
30. Damodara's son Pombha
31. Halluaka's son Davvu
32. Kasali
33. Mana's son Khajji.

From Asvala-Uhovaka
34. Usuaha's son Vaddha.

The inscription that enlists their names and backgrounds also introduces each of them by mentioning their respective fathers. Why this was done is not clear from the epigraphic text; one logical guess is that this was intended to indicate the hereditariness of their profession (see 7, 8 and 12). The inscription does not offer economic details of transactions in horses, since its main purport is to record the donation of resources by these merchants in favour of a few temples; such resources were to be realized in the form of a self-imposed cess by merchants on the sale of horses (*evametatpramukha-nanadesagata-hayakavyuvaharaka desi Sriprithudakiya… prayachchhati*). A few interesting observations can however be made in the light of even this meager account of transactions in horses. First, Prithudaka figures in some literary texts, notably the *Kavyamimasa* of Rajasekhara, as the point from which the northern quarter, Uttarapatha, starts.[37] The very expression Uttarapatha must have been coined after a major overland route that connected the upper Ganga valley and the Indo-Ganga divide with the northwest, the latter traditionally famous for the availability and supply of quality horses. It is therefore in the fitness of things that Prithudaka was the site for a horse-fair. However important Prithudaka could have been as a centre for horse trade, the occasion was that of a fair which seems to have taken place or been organized during a specific season or period, possibly coinciding with some festivals. In other words, a fair is marked by the periodicity of transactions, but not perhaps implying a regular market place participating in transactions on a daily basis. No less significant is the statement in the inscription that horses were available at Prithudaka for purchase by king(s) and petty nobles and rural gentry alike (*rajakriyopakraye thakkurajanapadopakraye*). The horse therefore was not meant for the restricted use of royal personages only. The landholding rural elite had resources enough to buy these coveted animals, more as a symbol of prestige and status than for warlike purposes. At one specific place, namely Traighataka, however, the sale of horses was restricted only to rulers (*kevalam rajakiyopakraye*). Can one infer that the better quality, imported horses, were earmarked for royalty and hence available only at a specific place, while the locally bred ordinary variety catered to the needs of the rural elite?

A further word on the horse-merchants will be in order here. The inscription informs us that these merchants, hailing from different places, formed a guild-like professional body (*desi*) of dealers[38] in horses (*hayakavyuvaharaka*). None of the merchants bore non-Indian names; but a few of them were certainly *brahmanas*, clearly borne out by their prefixes and suffixes like Bhatta and Sarman. Irrespective of the long-standing proscription on *brahmanas*' participating in trade as per the normative treatises, the inscription, typical of a source of the descriptive category, underlines that the trade in horses was lucrative enough even for the brahmanas to transgress the sastric code of conduct.

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[37] "*Tatah Prithudakat paratah Uttarapatha*". states Rajasekhara. See 'Uttarapatha' in K. K. Dasgupta (ed.), *J. F. Fleet's Topographical List of the Brihatsamhita* (Calcutta, 1972).

[38] For an explanation of the word *desi* in the sense of a professional body of merchants see Lallanji Gopal, *Economic Condition in Northern India, AD 700-1200* (Varanasi, 1983; second edition), p. 242.

This gains further ground after nearly a century in an inscription of 975 that speaks of the presence of the Hedavikas, hailing from Uttarapatha, at a trade centre in the Shikar area of Rajasthan.[39] The word *hedavika* stands specifically for horse-merchants; it also denotes, according to Balambhatta's commentary on the *Mitakshara* which itself is a commentary on the law-book of Yajnavalkya, a sub-caste of the *brahmanas*. The commentary recognizes the reality of the *brahmana's* participation in horse-trade, while the principal prescriptive text, the *Manusamhita*, categorically forbids a *brahmana* from dealing in animals even when in utter distress. The same inscription eulogistically describes precious gifts presented to Vigraharaja of the Chahamana lineage, including gay steeds and rutting elephants. Beneath such conventional court-poetry probably lies the recognition of the coveted war animals, the horse and the elephant, for an aspirant ruler. The supply of the horse as an exchangeable commodity in this area will be evident from the same inscription recording the levy of one *dramma* (a type of silver coin) on the sale of each horse. The levy, according to the inscription, was payable by the Hedavika merchants of Uttarapatha at Shikar. It is evident that the Hedavikas were non-local merchants at Shikar.

Two decades previously, in 955, there stood two *mandapikas* (locality-level centre of exchange) in the Bayana region of northeastern Rajasthan. A cess of 3 *drammas* was imposed on the sale of each horse at the *mandapika* of Sripatha and one *dramma* on the sale of each horse at Vusavata.[40] The point of interest in this epigraphic reference to the sale of horses is that the cess was collected daily, implying that the transactions at the two *mandapikas* were regular and not periodic (like the one at Prithudaka). The reason for imposing a lower rate of cess on the sale of each horse at Vusavata, one may guess, is that it dealt in horses inferior in quality to the ones at Sripatha. Continuing with the scenario in Rajasthan, one comes across the prevalence of the levy of two *rupakas* (a type of silver coin) on the sale of a horse, as recorded in an inscription from Ahada. The levy on the sale of horses would be used as donations for the maintenance of a Vaishnava (having an image of Varaha or the Boar incarnation of Vishnu) temple at Ahada.[41]

The Jaina texts from western India offer interesting glimpses of the association of horses with social and cultural scenarios. Hemachandra, the great scholar of the twelfth century, in his *Trishasthisala-kapurushacharita*, vividly describes the scene at the onset of a caravan journey under the leadership of Dhana, a prominent merchant. An auspicious moment was chosen for the departure of the caravan that carried much merchandise. The departure of the caravan was a spectacle involving a large number of horses, camels, carts and oxen – typical of a caravan about to move. The caravan advanced unhindered as it was flanked by a multitude of horsemen. The *Maharajaparajaya* of Yasapala, another important Jaina text, recounts the grandeur and opulence of a rich elite (*kotisvara*, literally the lord of the crores of wealth): as expected, his possession of horses and elephants along with his mansion, decorated with banners, and the alms house under his patronage marks out his affluence.[42] The demand for horses was not merely limited to the rulers, but the animal was sought after by the rich as a statement of their prestige and rank in society.

Attention now may be paid to a horse-market in central India. We encounter a large *mandapika* located in an urban space (*pattanamandapika*), once again in 975, at a place close to Jabbalpur in Madhyapradesh. An inscription impresses us with the wide range of commodities – ranging from green vegetables and other plant products (black pepper) to precious animals like the horse and the elephants – available at this locality-level trade centre. On the sale of each elephant was imposed a cess of 4 *paura* coins, while a cess of 2 *paura* coins was exacted from the sale of each horse.[43] First, one notes here the lower rate of cess on the sale of the horse than that on the elephant. The region, known as Dahala, is located in the forest tract which seems to have facilitated the local supply of elephants to the *mandapika*; but the horse is unlikely to have been locally

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[39] *EpInd*, II, p. 127.

[40] For a discussion on this on the basis of the Shergarh Inscription, see, Chattopadhyaya, *The Making of Early Medieval India* (chapter on Markets and Merchants in Early Medieval Rajasthan) and Chakravarti, *Trade and Traders*, pp. 187-200, especially the table at the end of the chapter.

[41] Besides the levy on the sale of horses, a cess of one *dramma* on the sale of an elephant and one-fortieth of a *dramma* on the sale of a horned animal were imposed at Ahada. See Lallanji Gopal, *Economic Conditions in North India* (Varanasi, 1965), p. 206.

[42] These gleanings from the two Jaina texts are based on V. K. Jain, *Trade and Traders in Western India, 1000-1300* (New Delhi, 1989).

[43] V. V. Mirashi, *Corpus Inscriptionum Indicarum*, IV, pt. I (Ootacamund, 1955), pp. 215, 223.

available in and around Jabbalpur and seems to have been brought from elsewhere. Yet the sale of elephants attracted a higher rate of cess in cash. This may imply that either the local society attached greater importance to elephants than to horses as war-animals, or the horses available for sale at Bilhari did not belong to the best breed.

In eastern India, Bengal offers glimpses of interesting change and continuity in the pattern of import of horses to this area. We have already said that all the Pala rulers of Bengal took pride, in a stereotyped manner, in their invincible cavalry comprised of the best horses from the northern and northwestern quarters. Since the twelfth century the major dealers of the best variety of horses from Tatar (Central Asia) and Fers (Persia) to India were Muslim merchants. The regular movements of these merchants as far east as Bengal is well illustrated by the *Tabaqat-i-Nasiri* of Minhaj who spoke about the Turkish conquest of Bengal. Though the fall of the Sena power before the Turkish conquerors under Bakhtiyar Khalji is dated as 19 Ramadan, AH 601 (10 May, 1205),[44] Minhaj wrote his account about sixty years after the event. The account therefore is not free from inaccuracy and other limitations.[45] These problems notwithstanding, Minhaj presents a lively account of the trade in horses in Bengal.

> Proceeding from Bihar, Bakhtiyar suddenly reached the city of Nudiah (Nadia in West Bengal) by following a shortcut through the present Jharkhand.
> On reaching the gate of the city, Muhammad Bakhtiyar…with no more than eighteen horsemen … proceeded onwards, steadily and sedately, in such a manner that the people of the place imagined that mayhap his party were merchants and had brought horses for sale and did not imagine that it was Muhammad Bakhtiyar.[46]

The author gives an impression that Bakhtiyar surprised every one, including the Sena ruler who fled, and Bakhtiyar conquered the city with a help of a large number of troops that followed him and the eighteen horsemen who accompanied him. Minhaj graphically describes a lively import trade of Arabian / Persian horses brought by Muslim merchants, whose sight and activities were so common in twelfth century Nudiah that it barely evoked any notice or alarm among the residents of the city or the royal troops. We have no idea how and why Nudiah in West Bengal developed as a major centre of horse-trade, but it is unlikely to have occurred prior to the political rise of the Senas in the western part of the delta (twelfth century). Next to fall before the Turkish forces was the Sena capital itself, the famous city of Lakhnauti (Lakshmanavati, named after king Lakshmanasena), identified with Gaur, the premier urban centre of medieval Bengal (located in the northern part of Bengal). The *Tabaqat-i-Nasiri* did not fail to notice that this city too, like Nudiah, was a major centre for horse-trading. Lakhnauti daily received as many as 1,500 horses from a city variously spelt as Karambattan, Karampatan and Karapatan.

> All the Tanghan horses which come into the territory of Lakhnauti are brought from this country. The roads pass through defiles as is usual in that land, so that from the land of Kamrud to that of Tibet there are thirty five mountain passes, through which the horses are brought to the land of Lakhnauti.[47]

It is difficult to identify the exactly location of Karambattan. Bhattasali placed it in Kera Gompa (southwestern Bhutan) and Toghan located it in the northern fringe of Tibet. The significant point is that Lakhnauti received northeastern horses from the mountainous area. Hence, Bengal was supplied simultaneously with northwestern *and* northeastern horses in the thirteenth century. The northeastern mountainous horses in the fourteenth century accounts of Barani and Wassaf were labeled as *kohi* (from mountainous regions) horses, distinct from the more famous Arabian and Persian breeds. It is logical to assume that there was a boom in the import trade of horses in thirteenth century Bengal that had two sources of supply of two different breeds of horses. One may not be entirely off the mark to suggest that Bakhtiya targeted Nudiah and Lakhnauti since they were not merely major urban and political centres in Bengal, but were also thriving markets for horses. The contiguity of North Bengal to upper Assam (Kamarupa) that acted

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[44]   This specific date is given by D. C. Sircar, *Pala Sena Yugera Vamasanucharita* (Bengali) (Calcutta, 1983), on the basis of a gold coin issued by Bakhtiyar to commemorate the victory over Gauda (*Gaudavijaye*).
[45]   R. C. Majumdar, *History of Ancient Bengal* (Calcutta, 1971).
[46]   H. G. Raverty (ed. and tr.), *Tabaqat-i-Nasiri by Minhaj uddin* (Calcutta, 1881), p. 557.
[47]   Ibid, pp. 567-568.

as a conduit for further communications with the northeastern fringe appears to have been appreciated by Bakhtiyar. He launched another expedition towards Karambattan, precisely to conquer this vital supply zone of *kohi* horses, but it ended in a disastrous defeat for him.

No less important is the commercial connectivity between the northeastern borderland of the subcontinent with the Yunnan-Bhamo region that has recently been seen as well integrated with the 'Southwest Silk Road'. The horse economy of this region gained further momentum as it experienced the circulation of cowry currency,[48] which was also prevalent in wide areas of eastern India, including Bengal. The Yunnan-Bhamo route linked up on the one hand the northern part of Bengal through Kamarupa, and on the other, reached out to the southeasternmost part of Bangladesh where stood the celebrated port of Chattagrama (modern Chittagong, also known as Samandar and Sudkawan in Arabic and Persian texts).[49] The southeastern section of the Bengal delta (Noakhali, Comilla and Chittagong region of Bangladesh) functioned as a bridge between South Asia and continental Southeast Asia. Amir Khusru's account of the invasion of the Kakatiya realm (in Andhrapradesh) by Alauddin Khalji in the early fourteenth century tells us that the Kakatiya royal stable had both extremely precious Arabian / Persian horses and *kohi* or mountainous ones. The *kohi* horses could not have been locally available in the eastern part of the Deccan. There is thus a distinct possibility that these *kohi* horses reached the eastern Deccan from Bengal, either by an overland route through southern Bengal and Orissa, or by a coastal shipping network along the eastern seaboard.[50]

V

This section takes up a brief overview of the overseas transportation of horses to India, a hallmark of the horse-trade in the post-1000 AD days. Ibn Battuta, Wassaf and Barani, all belonging to the fourteenth century, provide us with a classification of horses, based on their quality and price. Four types of horses figure in their statements: the *bahri* (literally meaning the sea-borne, and actually referring to horses of Arabia and Persia exported overseas for Indian destinations), the *tatari* (from Tatar or Central Asia), the *buldasti* (from the Mulk-i-buldasta or the flat plains to the northwest of the Punjab bordering on the northern frontiers), and the *kohi* (the mountainous horse from the northeast, already discussed above). The classification has been made from the viewpoint of procuring the best horse (the warhorse) for the ruler, the intended ruler being in many cases the Sultan of Delhi.[51] The authors share two commonalties in this context: first, the *bahri* horse was by far the most superior and sought after and hence fetched the highest price; and, second, the local indigenous breed of the *tattu* was the worst and unfit for the cavalry. The *bahri* cost anything between 1,000 and 4,000 *tankas* or silver coins, as Ibn Battuta narrates.[52] An exceptional *tatari* horse fetched a price of 500 *tankas*, and the price of an ordinary *tatari* horse was 100 tankas, according to the same author. Barani also mentions the price of 100 to 120 *tankas* for a *tatari*.[53]

That the two sea-lanes in the western Indian Ocean, the Persian Gulf and the Red Sea, thrived on the export of the Arabian and Persian horses by overseas transportation to India, had already been noted by

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[48] Bin Yang, "Horses, Silver and Cowries: Yunnan in Global Perspective", *Journal of World History* 15 (2004), pp. 289-322.

[49] B. N. Mukherjee, "Commerce and Currency in the Central and Western Sectors of Eastern India (c. 750-1200)", *Indian Museum Bulletin* 27 (1982), pp. 65-83, highlights the importance of cowry shells in the economy of Bengal. Bin Yang's essay cited in footnote 43 clearly demonstrates the wide circulation of cowry shells as a major medium of exchange. There is little substantiation of the observation that cowry shells as a medium of exchange were a poor substitute of pre-modern metallic money and were restrictive of long-distance trade (see Sharma, *Indian Feudalism*). J. Heiman, "Small Exchange and Ballast: Cowry Trade and Usage as an example of Indian Ocean Economic History", *South Asia* 3 (1980), pp. 48-69, ably argues that cowry shells were integral elements of Indian Ocean maritime trade, travelling long distances from the Maldives, the source of the best cowry shells. For maritime trade in Bengal and for horses, see Chakravarti, *Trade and Traders* (especially, the chapter Seafaring in the Bengal Coast: the Early Medieval Scenario), and the next note.

[50] Chakravarti, "Early Medieval Bengal", pp. 194-211.

[51] This classification was first suggested by Simon Digby, *War-horses and Elephants in the Delhi Sultanate* (Oxford, 1971); I have regularly drawn upon this masterly work.

[52] H. A. R. Gibb (tr.), *The Travels of Ibn Battuta* (London, 1929), pp. 145-146.

[53] Ziya Uddin Barani (author), S. A. Khan, W. N. Lees and Kabiruddin (eds.), *Tarikh-i-Firuz Shahi*, Bibliotheka Indica (Calcutta, 1860-1862), f. 119A; cited by Digby.

thirteenth century writers like Zhao Rugua and Marco Polo.[54] Before taking into account the embarkation points of these *bahri* horses for their Indian clientele, one has also to recognize that the shipping of horses would bring the coastal regions of the peninsula (and not the landlocked North Indian plains) to great prominence. Zhao Rugua underlines the importance of the Omani lands as a busy breeding ground for horses.[55] How the merchants of Kish, Hormuz, Dhofar, Shihr (Suhar) and Aden collected a large number of horses from breeders and then shipped them to ports on the western sea-board of India, figures prominently in Polo's account.[56] The ports in the Persian Gulf, the Red Sea and on the Hadramaut coast reaped great advantages by exporting horses to India. While Kish and Hormuz had shot to considerable prominence for the maritime shipping of horses to India, Aden too joined this network that now also expanded into the Red Sea. Polo tells us:

> The sultan of Aden receives a large amount in duties from the ships that traffic between India and his country…; from the exporters he gets a revenue, for there are dispatched from the port of Aden to India a very large number of Arab chargers.[57]

Intelligent utilization of the more or less predictable alterations of the monsoon wind was instrumental in bringing in ships from Bab el Mandeb to Malabar in around twenty days, at the most in a month.[58] The export of *bahri* horses from Aden seems to have increased the pace of shipping across the Arabian Sea and hence a speedier disembarkation of these horses at the Malabar ports. The large revenue potential associated with Aden's export of horses is indicated not only by Polo, but also by the thirteenth century author Ibn Mujawir in his graphic account of this great port city. According to Mujawir, the sale of horses was subject to the highest rate of duty, namely 50 *dinars* per horse.[59]

Following Polo once again, one learns that about 10,000 horses were sent to the ruler Sonderbandi, identified with Sundara Pandya of the Pandya dynasty in the eastern part of Tamilnadu. Known as Ma'abar in the Arab account, the same Pandya realm figures in the writings of Ibn Battuta, who confirms Marco Polo's narration of a very large consignment of horses to the Pandya king. Ibn Battuta further speaks of a merchant Jamaluddin who was under contract with the Ma'abar king to procure for him as many horses as possible. The constant wars fought by the Pandya kings of the Vaigai-Tamraparni basin with a number of rivals, especially the waning Chola kingdom, necessitated continuous importation of war horses.[60] The other reason for this ceaseless import of horses by sea is hinted at by Marco Polo. He expressed his poor opinion about the inability of Indians to properly breed, feed and maintain horses – the disastrous result being that a large number of imported horses perished *in situ*, which constantly called for fresh imports. Moreover, according to Polo, the Arab merchants, fully aware of these deficiencies, would not allow a veterinary physician to accompany the horses that were sent to India.[61]

Another significant development took place in South India. While the shipping of the *bahri* horse was under the firm control of merchants in the Persian Gulf, Red Sea and the Hadrami coastal areas, there emerged a group of merchants in South India, dealing specifically in horses. They are the *kudiraichchettis*, *kudir* denoting the horse and *chetti* standing for merchants. Known to us largely from inscriptions, these merchants were invariably described as the horse-dealers of Malabar (*malaimandalam*). However, their inscriptions are available not from the Malabar coast, but from the eastern part of Tamilnadu.[62] This is

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[54] Friedrich Hirth and W. W. Rockhill (ed. and tr.), *Chau Ju-kua. His Work on the Chinese and Arab Trade in the Twelfth and Thirteenth Centuries, entitled Chu-fan-chï* (St. Petersburg: Imperial Academy of Sciences, 1911); H. Yule and H. Cordier (eds. and tr.), *The Travels of Ser Marco Polo*, 2 vols. (London, 1903).

[55] Hirth and Rockhill, *Chau Ju-kua*, p. 133.

[56] Yule and Cordier, *Polo*, I, pp. 84-85; II, pp. 340, 377, 379, 381.

[57] Ibid., II, pp. 373-374.

[58] That this system was well established since the late first century AD, has been argued for by Lionel Casson (ed. and tr.), *Periplus Maris Erythraei* (Princeton, 1989), introduction.

[59] G. Rex Smith, "Have You Anything to Declare? Maritime Trade and Commerce in Ayyubid Aden: Practices and Taxes", in idem, *Studies in the Medieval History of the Yemen and South Arabia* (Aldershot, etc., 1997).

[60] A. Appadorai, *Economic Conditions in Southern India*, vol. II (Madras, 1936), pp. 553-563.

[61] Yule and Cordier, *Polo*, II, p. 375.

[62] See *Annual Report of Indian Epigraphy*; inscription no. 196 of the year 1928 and inscription no. 182 of the year 1926. Champakalakshmi, *Trade, Ideology, Urbanization*, p. 336, has made a passing reference to the horse merchants.

precisely the area that was the seat of power of the Chola and subsequently the Pandya rulers. The Kaveri valley and delta was the core area of the Cholas while the Vaigai-Tamraparni valley and delta was the principal stronghold of the Pandyas. These *kudiraichchettis* therefore appear to have played the crucial role of supplier of *bahri* horses to the Tamil rulers, once these animals reached the Malabar ports by ship. The *kudiraichhettis*, one may add, rarely figure in the local Kerala society from where they originally hailed, because the principal political centres and the masters thereof were then active in the eastern part of Tamilnadu. Thus the dynastic hinterland of the overseas supply of horses was situated far away from the Malabar coast, and the *kudiraichchettis* acted as a bridge between the ports on the Malabar coast and the final destination of the imported horses, the Chola and Pandya realms in the interior. They were counterparts of the North Indian *hedavika* merchants.

The import trade of horses for Indian rulers indeed strengthened their power. But it was not always a smooth and certain process to ensure a steady supply of horses. Marco Polo tells us that the ruler of Tana (Thana, a well known port located on a creek, now a northern suburb of Mumbai) faced a major problem as regards the supply of horses. The ruler of Thana is not a political authority over a port, but was in all probability the powerful Yadava ruler of northern Maharashtra. As he was facing a shortage in the supply of horses, he resorted to a stratagem: he connived with the local corsairs on the condition that the horses plundered by pirates, operating in the vicinity of Thana, would go to the ruler, while all other objects would be taken away by the pirates.[63]

It has been suggested that the Yadava ruler did not receive enough *bahri* horses as most ships from the Persian Gulf and the Red Sea preferred to sail to either the ports of Gujarat or those in Malabar. Indeed, ports on the Konkan coast like Thana, sandwiched as it were between the more prosperous ports in Gujarat and Malabar, probably suffered from a decrease in the supply of horses from across the Arabian Sea. Yet the Yadava contestations with contemporary powers in the Deccan and Malwa and also against the Delhi Sultanate hardly allowed a decrease in the demand for quality warhorses. Such a desperate situation probably drove the Yadava ruler to resort to a strategy of conniving with pirates in order to ensure the procurement of this indispensable war animal.[64]

In sharp contrast to this attitude is the account of Vastupala, the celebrated administrator of the great port of Cambay in Gujarat, who himself was born into a merchant family. The *Prabandhachintamani* of Merutunga narrates that Vastupala closely supervised the procedure of unloading (*uttarantah*) of horses (*turanga*) from ships (*yanapatrat*).[65] These horses certainly belonged to the category of *bahri* or horses from overseas. Cambay was the premier port of Gujarat from the eleventh to the sixteenth century where the port authority normally did not resort to dubious means to procure horses as the ruler of Thana did. In addition to the Jaina account of the maritime supply of horses to the ports of Gujarat, certain other Jaina texts of Gujarat were aware of horses from the northwest also. The *Upamitabhavaprapanchakatha*[66] points to Bahlika (Bactria), Kamboja (northwestern Pakistan) and Turushka (Turkish area) as the source of premier horses. The knowledge about these northwestern horses in a Jaina text indicates the arrival of horses from the northwest by overland routes. Gujarat thus attracted merchants from both the maritime and overland sectors and thereby outshone other areas as the premier importers of horses in western India.

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[63] Yule and Cordier, *Polo*, II, p. 330.

[64] Ranabir Chakravarti, "Horse Trade and Piracy at Tana (Thana, Maharashtra, India): Gleanings from Marco Polo', *JESHO* 34 (1991), pp. 159-182. This strategy would have hardly brought any long-term prospect to Tana. The usual reaction of merchants to a pirate-infested port was to avoid it.

[65] *Prabandhachintamani* of Merutunga, tr. by C. H. Tawney, p. 14.

[66] Cited by Jain, *Trade and Traders*, p. 95, footnote 160.

The Horse in Southeast Asia prior to 1500 CE: Some Vignettes[1]

Geoff WADE[2]

INTRODUCTION

The historical roles of the horse in Southeast Asia have been subject to some scholarly attention, but the majority of studies conducted thus far have concentrated on the roles and functions of equids[3] in the period post-1500 CE.[4] It will be a long time before any comprehensive history of the horse in Southeast Asia will be written, but as a contribution to such a future work, it is intended here to provide a range of vignettes, situated both geographically and chronologically, relating to the roles and functions of horses in Southeast Asia during the period prior to 1500 CE. The aim is partly to introduce some new sources, rather than to try to write any synthesized history of the horse in Southeast Asia.

While the chronological restraints of the study are fairly clear, and essentially accord with the "pre-European" period of Southeast Asian history, the geographical limitations are not so obvious. Southeast Asia will here be taken to include the territory of the states which today form part of the Association of Southeast Asian Nations as well as some of the borderlands they share with polities to the north and to the west. This is of course an arbitrary division in historical terms, but it is hoped that the evidence presented as to the presence and functions of horses in this region will be able to be tied into that presented in other papers.

THE HORSE IN MAINLAND SOUTHEAST ASIA FROM PREHISTORY TO THE EIGHTH CENTURY

There are few archaeological sites in Southeast Asia where horse remains have been recovered. One of the few areas where they have been reported is the late Metal Age sites in Changwat Nakhon Ratchasima[5] in Thailand. It was reported that horse bones as well as horse clay figurines were found in a layer associated

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[3] A generic term for members of the Genus *Equus*, which includes horses, donkeys, asses, kiang, and zebra. References within this work will generally be to equids of the Subgenus *Equus*, which includes both the domestic horse (*Equus caballus*) and the wild horse (*Equus ferus*).

[4] See for example, William G. Clarence-Smith, "Elephants, Horses, and the Coming of Islam to Northern Sumatra", *Indonesia and the Malay World*, 32.93 (2004), pp. 271-284; William G. Clarence-Smith, "Horse Breeding in Mainland Southeast Asia and Its Borderlands", in Peter Boomgaard and David Henley (eds.), *Smallholders and Stockbreeders: History of Food and Livestock Farming in Southeast Asia* (Leiden: KITLV Press, 2004), pp. 189-210; Peter Boomgaard, "Horses, Horse-trading and Royal Courts in Indonesian History, 1500-1900", in Boomgaard and Henley, *Smallholders*, pp. 211-233; Greg Bankoff, "Horsing Around: The Life and Times of the Horse in the Philippines at the Turn of the Twentieth Century" in Boomgaard and Henley, *Smallholders*, pp. 233-256; Anthony Reid, *Southeast Asia in the Age of Commerce 1450-1680*. Vol.1: *The Lands below the Winds* (New Haven: Yale University Press, 1988), pp. 180-189; Michael W, Charney, *Southeast Asian Warfare, 1300-1900* (Leiden: Brill, 2004), ch. 7: Horses and Cavalry; William Gervase Clarence-Smith, "Horse Trading: the Economic Role of Arabs in the Lesser Sunda Islands, c. 1800-c.1940", in Huub de Jonge and Nico Kaptein (eds.), *Transcending Borders: Arabs, Politics, Trade and Islam in Southeast Asia* (Leiden: KITLV Press, 2002), pp. 143-162; and Greg Bankoff and Sandra Swart, *Breeds of Empire: The 'Invention' of the Horse in Maritime Southeast Asia and Southern Africa, 1500-1950* (Copenhagen: Nordic Institute of Asian Studies Press, forthcoming, 2007).

[5] A region on the Korat Plateau.

with dates from 2500-1610 BCE.[6] If further studies attest to the dates and the identification of the artefacts, we will have evidence that sometime between 500 BCE and 400 CE, people on the Korat Plateau were utilizing horses and making models of same.

At approximately the same period, we have references to horses in what is today the Chinese province of Yunnan. The historian Sima Qian 司馬遷 in his famed work *Shi ji* 史記 suggests that the people west of the region of Dian 滇, centred on Lake Dian near modern Kunming, saw horses, along with slaves and oxen, as an important source of wealth in the second century BCE.[7] The earliest domestic horses in Yunnan were likely steppe short horses, and Chiou-Peng has examined their possible origins.[8] Yang Bin cites the archaeologist Wang Ningsheng 汪寧生, who suggests that horse husbandry in the Yunnan region dates back to at least the sixth century BCE, and that horses were used there both for war as well as draught duties.[9] Zhang Zengqi 張增其 claims that archaeological evidence supports their domesticated presence in the region from at least 1000 BCE.[10] Yang Bin suggests that: "Legends recorded in *Huayang guozhi* 華陽國志 and *Hou Han Shu* 後漢書 talk about divine horses *(shenma* 神馬*)* in Lake Dian, Yunnan, which may imply that high-quality horses had already appeared before the third century CE."[11]

Regardless of what is claimed about earlier periods, it is widely accepted that by about the fourth century BCE, there emerged a new cultural complex in this region –the Dian culture –and that the people of this culture were intimately engaged with horses. Tze-huey Chiou-Peng has already analyzed the archaeology of the horse-related aspects of the Dian bronze decorations in a thorough article,[12] while Zhang Zengqi has provided us with two useful articles on the horsemen and their horses.[13] Chiou-Peng concludes that "horsemanship had special meaning in the sedentary Dian community."[14]

The beautiful bronzes which people of the Dian culture produced in the last centuries prior to the Common Era reveal to us the important roles of the horse in this culture at that time.[15] They show merchants taking horses apparently to market or to offer as tribute, horses being used in warfare and hunting, and associated with the elite. The earliest known representation of horse riders in the Dian culture is an open-work plaque showing horseman wearing feathered headgear and engaging in a deer hunt. It likely dates from between 250 and 150 BCE. The horses are equipped with a blanket-saddle, a basic bridle and bit, but no stirrups. It appears that stirrups were not used as none of the existing bronzes show any use of the stirrup.

Later representations portray a girdle strap on the horse suggesting some sort of proto-saddle. There appears to have been a diversity of horse types in the region at this time The small size of some of the horses, such as that shown being taken to market or to offer as tribute, suggests that these were what are today known as Pryzwalski horses usually associated with the Central Asiatic steppes, and sometimes known as the Mongolian pony.[16] Other decorations, for example on cowrie-containers, show figures in the round, hunting, engaging in warfare and, in some cases, just being shown as elites.

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[6]   Preecha Kanchanagama, "Archaeological Excavation at the Late Metal Age Sites in Changwat Nakhon Ratchasima", *Southeast Asian Archaeology International Newsletter*, 7 (1995), p. 22. My thanks to Professor John Miksic for drawing this to my attention.

[7]   Yang Bin, "Horses, Silver, and Cowries: Yunnan in Global Perspective", *Journal of World History* 15.3 (2004), paragraph 36. Also "http://www.historycooperative.org/journals/jwh/15.3/yang.html".

[8]   Tze-huey Chiou-Peng, "Horsemen in the Dian Culture of Yunnan", in Kathryn M. Linduff and Yan Sun (eds.), *Gender and Chinese Archaeology* (Walnut Creek: Altamira Press, 2004), pp. 306-311.

[9]   Wang Ning-sheng, "Gudai Yunnan de yangmaye" 古代雲南的養馬業, *Sixiang zhanxian* 思想戰線 3 (1980), p. 34.

[10] Zhang Zengqi, "Gudai Yunnan qi ma minzu ji xiangguan wenti" 古代雲南騎馬民族及其相關問題，in *Yunnan qingtong wenhua lunji* 雲南青銅文化論集 (1991), pp. 262-278.

[11] Yang Bin, "Horses, Silver, and Cowries".

[12] Chiou-Peng, "Horsemen in the Dian Culture of Yunnan", pp. 289-312.

[13] Zhang Zengqi, "Dianguo de zhanma, madeng ji maju" 滇國的戰馬，馬蹬，及馬具, *Kao gu* 考古 (5/1997), pp. 62-66; and "Gudai Yunnan", pp. 262-278.

[14] Chiou-Peng, "Horsemen in the Dian Culture of Yunnan", p. 292.

[15] A wide range of these bronzes are illustrated in Jessica Rawson, *The Chinese Bronzes of Yunnan* (London: Sidgwick and Jackson, 1983). A useful earlier study is Michelle Pirazzoli-t'Serstevens, *La civilization du royaume de Dian à l'époque Han* (Paris: École française d'Êxtreme-Orient, 1974).

[16] Chiou-Peng, "Horsemen in the Dian Culture of Yunnan", p. 303.

The brief textual references we have, suggest that the Chinese were also interested in the horses which were so important to the Dian culture, and obtained these through trade / tribute relations. The lower Red River Valley (Jiaozhou 交州 and later Annam 安南 to the Chinese) was in direct river contact with the horse-producing areas of Dian (and also had a thriving bronze culture) and Chinese texts suggest that the successive polities in this area did have access to horses from Dian and beyond in the first few centuries of the Common Era. Some of these were supplied annually to the kingdom of Wu, a Chinese state situated on the eastern littoral.[17] Thus, during this period, Chinese states were drawing horses directly form the uplands as well as from the proto-Viet state in the Red River Valley. Yang Bin notes the latter trade extending at least until the eighth century.

The Dian culture in Yunnan certainly continued to produce bronzes into the early centuries of the Common Era, and it appears that a recent find in Burma was a product of that culture. The wheeled-horse in cast bronze pictured below, apparently produced as a toy, was found in the Samon River Valley, around Pyawbwe, south of Mandalay.[18] Bob Hudson assigns it "at least Chinese inspiration" on stylistic grounds, and it may well have been produced in the Dian culture area (although they could in no way have been considered Chinese in this period).[19] (see pl. 40)

The Chinese state of Han, much further to the north, was also obtaining horses from Central Asia in the period from the second century BCE to the second century CE. A famous reference to Dayuan 大宛 (Ferghana) as having had excellent horses in the second century BCE comes from Sima Qian's *Shi ji*, in which the Han envoy's visit to the region is recorded.[20]

THE HORSE IN ISLAND SOUTHEAST ASIA TO THE EIGHTH CENTURY

The earliest known representation of an equid in island Southeast Asia appears to be that portrayed on a bronze drum found on the island of Sangeang, near Sumbawa in Indonesia. One panel of decoration on the drum shows a raised-floor dwelling with a saddle roof. Another panel shows two men in attire resembling that of Kushan in northwestern India, with one sitting astride a horse, and the other standing aside with a spear and perhaps a mace.[21] But was it produced in the island world?

Bellwood notes that the early bronzes found in Indonesia generally resemble those of the Dong-son culture – associated with the site of Dongson in modern northern Vietnam – particularly in respect of bronze drums. The decorations on the Sangeang drum, however, are not similar to the typical animal and bird friezes and the ships of the dead which characterize the usual Dongson drums.[22]

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[17] See Yang Bin, "Horses, Silver, and Cowries", who cites Chen Shou 陳壽, *San guo zhi* 三國志 (*Wu shu* 吳書), 4 vols. (Beijing: Zhonghua shuju, 1959), j. 49.

[18] Bob Hudson, *The Origins of Bagan: The Archaeological Landscape of Upper Burma to AD 1300* (unpubl. PhD thesis, University of Sydney, 2004), p. 113.

[19] Hudson, "The Origins of Bagan", p. 85.

[20] Sima Qian recorded of Zhang Qian's 張騫 visit to Ferghana in the 130s BCE: "Zhang Qian in person visited the lands of Dayuan, the Great Yuezhi, and Daxia 大夏 (Bactria), and in addition he gathered reports on five or six other large states in the neighbourhood. All of his information he related to the emperor on his return. The substance of his report was as follows: 'Dayuan (Ferghana) lies southwest of the territory of the Xiongnu, some 10,000 *li* directly west of China. The people are settled on the land, plowing the fields and growing rice and wheat. They also make wine out of grapes. The region has many fine horses which sweat blood; their forebears are supposed to have been foaled from heavenly horses. The people live in houses in fortified cities, there being some seventy or more cities of various sizes in the region. The population numbers several hundred thousand. The people fight with bows and spears and can shoot from horseback…." Quoted from Burton Watson, *Records of the Grand Historian*, 2 vols. (New York: Columbia University Press. 1993), II, pp. 231-246, in which he translates j. 123 of *Shi ji*

[21] On this drum, see Peter Bellwood, *Man's Conquest of the Pacific: the Prehistory of Southeast Asia and Oceania* (Auckland: William Collins, 1978), p. 223, fig. 8.17. – On Funan, more generally, also references in note 28, below.

[22] Ibid., pp. 222-224.

Robert von Heine-Geldern, the Austrian ethnologist and historian, suggested that the drum was imported into the insular realm from Funan 扶南 where it was likely manufactured in about 250 CE,[23] and this opinion has not really been seriously questioned since. (see pl. 41) Be this as it may, the horse on the drum is perhaps a war-horse – given the proximity of the weapons of war – but the illustration does not allow us to comment much further. It is certainly fitted with a bridle, seemingly with a bit, and reins, but it is not clear whether or not the horse is saddled.

In possible relation to what is portrayed on the drum, there is an intriguing third-century CE reference which has been left to us in a later Chinese text. The *Taiping yulan* 太平御覽, a Chinese encyclopaedia of the tenth century, cites from a now lost third-century work *Wushi waiguo shi* 吳時外國事, which recorded the travels of the Chinese envoys Zhu Ying 朱應 and Kang Tai 康泰 to Funan and other polities in Southeast Asia in the middle of that century. It reads as follows: "The king of the country of Jiaying 加營 loves horses. Merchants of Yuezhi 月支 frequently bring ships filled with horses to the country of Jiaying and the king of the country purchases them all. If, during the journey, a horse dies, the merchants only have to show the king the head and the skin and the king will pay them half the price of the horse. It is said that when the Yuedi 月氏[24] merchants come to the country of Jiaying with their ships filled with horses, those who follow them locally stare at them and consider them strange."[25]

Ranabir Chakravarti has demonstrated conclusively the transport of horses by sea in very early medieval India.[26] However, the toponym Jiaying (and in another text Geying 歌營) has never been firmly identified, with suggestions as to its location ranging from the Malay peninsula to Sumatra or Java to the southern coast of India. Bratindra Nath Mukherjee follows Pelliot and Wolters in assigning Geying or Jiaying to the Malay peninsula or the east coast of Sumatra, and considers that the decoration on the Sangeang drum represented Yuezhi (Northwest Indian / Iranian) horse dealers in Southeast Asia.[27]

Mukherjee noted that that the name Yuezhi was applied generally to the northwestern areas of the Indian subcontinent and the areas under the Kushāna empire(including North India, the Western Himalayas Bactria, Sogdia, Hindu Kush and the Pamirs) until the middle of the third century CE. He also opines that discoveries of Kharosthand Kharoshtī-Brahmi inscriptions in Vanga, lower West Bengal, point to the movement of people from the Kushan area to the lower reaches of the Ganges. He suggests it was these horse traders based in Bengal who linked the horse production areas in the northwest of India to Southeast Asia. He sees as further evidence of this thesis Kharoshti inscriptions in Southeast Asia, including some at Oc-eo, with some Iranian names. Mukherjee suggests that the Vanga-Southeast Asia trade in horses ended about the fifth century.[28] However, he did not consider the possibility that Jiaying / Ge-ying represented the name "Keling" and was actually a reference to Kalinga.

The horses of Ferghana were not just sought by the Chinese. According to the Chinese dynastic history *Liang shu* 梁書 (635) during the Wu dynasty (220-280 CE), the king of Funan, the precursor polity to Cambodia, sent an envoy called Suwu 蘇物 to Tianzhu 天竺, a toponym commonly recognised as referring to the Indian subcontinent. He first travelled from Funan to Juli 拘利, likely on the west coast of the peninsula. Then he undertook a sea voyage to the northwest, to the mouth of the river of Tianzhu (likely the Ganges). The ruler of the local polity gave Suwu four Yuezhi horses to take back to Funan as a gift for his

[23] R. von Heine-Geldern, "The Drum Named Makalamau", *India Antiqua* (Leiden: Brill, 1947), pp. 167-179. The drum is also discussed by H. R. van Heekeren in his "The Bronze-Iron Age in Indonesia", *Verhandelingen van het Koninklijk Instituut voor Taal-, Land- en Volkenkunde* 22 (1958), pp. 24-26 and plates 6-7.

[24] Likely a scribal error for Yuezhi.

[25] Li Fang, *Taiping yulan*, Guoxing jiben congshu, 12 vols. (Taibei: Xinxing shuju, 1959), j. 359.

[26] Ranabir Chakravarti, "Overseas Trade in Horses in Early Medieval India: Shipping and Piracy", in D. C. Bhattacharyya and Devendra Handa (eds.), *Praci-prabha = Perspectives in Indology: Essays in Honour of Professor B. N. Mukherjee* (New Delhi: Harman Publishing House, 1989), pp. 343-360; and Ranabir Chakravarti, "Early Medieval Bengal and the Trade in Horses: a Note", *Journal of the Economic and Social History of the Orient* 42.2 (1999), pp. 194-211.

[27] Bratindra Nath Mukherjee, "Coastal and Overseas Trade in Pre-Gupta Vanga and Kalinga", in Ranabir Chakravarti (ed.), *Trade in Early India* (New Delhi: Oxford University Press, 2004), pp. 199-227. See especially pp. 204-208.

[28] Bratindra Nath Mukherjee, "The Angkor Records and the Iranian Cultural Elements", in Amina Ahmed Kar, *The Angkorian Records* (Parganas: Bhaskar Bhavan, 2002), pp. 12-13.

ruler.[29] We thus have good evidence of Ferghana horses being traded by sea to Southeast Asia at least by the late third century CE.

Further evidence of long-distance maritime transport of horses from West Asia comes to us in a mid sixth-century work, *Topographia Christiana* by Cosmas Indicopleustes. This notes the import of horses from Persia into Sielediba / Taprobane (Sri Lanka), and links from there to China. In references to the ruler of Sielediba the author notes: "Horses they bring to him from Persia and these he buys, and grants special immunities to those who import them."[30] The possibility that some of these horses were further transhipped into Southeast Asia should also be considered.

In the seventh century, we see that Southeast Asian polities were still anxious to obtain horses from beyond the region. A Southeast Asian polity, Tuohuan 陀洹, which is unidentified but noted in the *Sui shu* 隋書 of the 630s as being engaged in constant warfare with the Cambodia polity of Zhenla 眞臘, is recorded in the *Jiu Tang shu* 舊唐書 (compiled in 945, but recording events from 618 to 906 CE) as having requested horses and bells when its envoy went to the Tang court in 648 CE. These were provided to it, but the number of horses given is not revealed.[31] A similar request was made to the Tang court by the country of Dvaravati, which held sway over some of the territory which today constitutes central Thailand. In 650, in exchange for the ivory and pearls which he presented to the Tang court, the ruler of Dvaravati requested some fine horses.[32] It is not clear from the texts whether such requests were intended to obtain horses as some sort of prestige indicator within their own societies, or whether the horses were intended for more practical purposes such as breeding.

Yet some other Southeast Asian polities apparently had quite a supply of horses, likely the short animal which is still today the "typical" Southeast Asian horse. The *Jiu Tang shu*, provides an account of the polity of Linyi 林邑, generally considered a precursor of Champa on the coast of what is today central Vietnam, which notes that the Linyi ruler was attended by 400 followers on horse, divided into forward and rear forces. The text could have been referring to any period from the seventh to the ninth century.[33]

This does mean that at least some Southeast Asian polities were employing large numbers of horses for military (or at least ceremonial) purposes by the ninth century. The earliest representation of a horse that we have for Lin-yi / Champa is that dated to the seventh or eighth century from Mỹ So'n. The animal appears to be leaping in front of a deity. The proportions of the horse suggest that the model was a local animal rather than one imported from West Asia. (see pl. 42)

In addition, the *Xin Tang shu* 新唐書 (compiled in 1060, but recording events from 618 to 906 CE) makes note of a Southeast Asian place named Poli 婆利 and links this with horses. The reference states that this Poli, a large island one reaches after passing Chitu 赤土 and Dandan 丹丹, has many horses. The polity of Poli remains somewhat of a mystery, but most evidence suggests the island of Bali in the modern Indonesia.[34]

There is some further archaeological evidence for Southeast Asian horses before the ninth century. Stamped potsherds from Lopburi, a Dvaravati site, and dating from the seventh to the ninth century show horses.[35] It is impossible to assess from where these horses came as Lopburi was tied to both maritime and

[29] Yao Silian 姚思廉, *Liang shu*, 3 vols. (Beijing: Zhonghua shuju, 1973), III, j. 54, p. 798. On Funan: Paul Pelliot, "Le Fou-nan", *Bulletin de l'École française d'Extrême-Orient* 3 (1903); Paul Wheatley, *The Golden Khersonese. Studies in the Historical Geography of the Malay Peninusla Before A.D. 1500* (Kuala Lumpur: University of Malaya Press, 1961), passim; O. W. Wolters, *Early Indonesian Commerce. A Study of the Origins of Srívijaya* (Ithaca, N.Y: Cornell University Press, 1967), passim.

[30] Henry Yule, *Cathay and the Way Thither, Being a Collection of Medieval Notices of China*, 2 vols. (London: The Hakluyt Society, 1866), I, p. 180.

[31] Liu Xu 劉昫 et al., *Jiu Tang shu*, 16 vols. (Beijing: Zhonghua shuju, 1975), XVI, j. 197, pp. 5272-5273.

[32] Ibid., pp. 5273.

[33] Ibid., pp. 5269-5270.

[34] Ouyang Xiu 歐陽修 and Song Qi 宋祁, *Xin Tang shu*, 20 vols. (Beijing: Zhonghua shuju, 1975), XX, j. 222, p. 6299. On Poli and related names, Roderich Ptak, "Possible Chinese References to the Barus Area (Tang to Ming)", in Claude Guillot (ed.), *Histoire de Barus, Sumatra. Le Site de Lobu Tua*. Vol. 1: *Études et documents*, Cahiers d'Archipel 30 (Paris: Association Archipel, 1998), pp. 119–147.

[35] My thanks to Pamaree Surakiat for providing these illustrations.

upland trade routes. Clarence-Smith, citing both Ito and Guillon, also notes that the Mon were riding horses in the eighth century and that a Mon origin is attested for the Thai word for horse.

Actually, when one examines the maritime trade to Chinese polities from those of Southeast Asia and the subcontinent through the "tribute" lists over the period from the seventh to eleventh centuries, the absence of horses being submitted to China is obvious, particularly vis-à-vis the number of elephants and rhinoceros submitted by these regions. Hans Bielenstein, who has tallied the "tribute missions" to Chinese states from Southeast Asia and the Indian subcontinent from the sixth to the thirteenth centuries, notes 39 missions submitting elephants, 11 submitting rhinoceros and only three submitting horses (953 CE from Western India; 1014 CE and 1156 CE from Jiaozhi / Vietnam).[36] That the Southeast Asian polities were not submitting horses to China does not mean that they were not importing their own horses, and the term *kuda* for horse was certainly being used in Javanese inscriptions prior to 929 CE.[37]

THE HORSE IN UPLAND SOUTHEAST ASIA IN THE NINTH CENTURY

During the ninth century, the horses of the polity of Yuedan 越睒 in Nanzhao 南詔, were famed,[38] and were sent to the Tang court in Chang'an. The *Man shu* 蠻書 (compiled in the 860s or 870s) has a number of entries which shed light on the roles and importance of these horses and others in areas which are today parts of northern Burma and the province of Yunnan in China. The *Man shu* had this to note of the "barbarians of Wangjuzi" (望苴子蠻), who resided to the west of the Lancang 蘭滄 River:

> The Wangjuzi barbarians reside to the west of the Lancang,[39] and they were pacified by Shengluopi 盛羅皮.[40] These people are brave and intelligent and are good at employing spears on horse-back. In riding horses they do not use saddles. They go bare-footed and wear short armour, which just covers their chests and abdomen. Their thighs and knees are unprotected. On their helmets they attach an ox-tail.[41] They ride like they are flying. Their women also ride thus. When the senior generals of Nanzhao and the various commanderies dispatch troops, it is always those of Wangjuzi who are the vanguard.[42]

Other sections note:

> Yongchang 永昌 City[43] is the ancient Ailao 哀牢 region, and is six day-stages distant from Tiancang 玷蒼 Mountain … In the city there is a temple to a divinity. It is customary for all to show it great respect and hold it in awe, and people make offerings and prayers there without end. *Man* 蠻 and *yi* 夷 people who ride horses will, when first seeing the temple for the distance, dismount and go past the temple on foot.[44]
>
> Horses come from Yuedan 越睒, in the region to the east of the river with the mountains to the west. The land gradually slopes downward, with intermittent rises, and falls like the low walls between field. There are springs and excellent grass suited to horses. When the horses are first born, they are like lambs or kids. After a year, they knot grass into a bridle in order to halter it. For three years, they feed it on rice porridge. After four to five years, the horse is quite mature, and by the sixth or seventh year, it is considered full-grown. Those with high tails are particularly excellent and swift, and can travel several hundred *li* 里[45] in one day. Most of the original stock were piebald, and thus for generations they were called Yuedan piebalds. In recent years, however, there has been a preference for white horses. Tengchong 藤充 and Shendan 申睒 also produce horses. Those of Cidan 次睒 and Dianchi 滇池 are particularly excellent. Among the Western Cuan 東爨 and the Wu barbarians 烏蠻, there are also horses, but

[36] See Hans Bielenstein, *Diplomacy and Trade in the Chinese World 589-1276* (Leiden: Brill, 2005), pp. 83-86.

[37] Antoinette M. Barrett Jones, *Early Tenth Century Java from the Inscriptions: A Study of the Economic, Social and Administrative Conditions in the First Quarter of the Century* (Dordrecht: Foris Publications, 1984), p. 57. See also a similar claim for pre-ninth century introduction in Jan Wisseman Christie, "The Agricultural Economies of Early Java and Bali", in Boomgaard and Henly, *Smallholders*, pp. 47-68.

[38] Both the *Man shu* (Book of the Barbarians) and the *Xin Tang Shu* (New History of the Tang Dynasty) listed the horses of Yuedan as being the best of Nanzhao.

[39] This refers to the upper reaches of the Mekong, which would locate this people in modern western Yun-nan or northern Burma.

[40] A Nanzhao ruler who ruled over the period 712-728.

[41] Alternatively, a reference to a yak-tail.

[42] An alternative translation of this section is available in Gordon H. Luce (translator), G. P. Oey (ed.), *Man Shu: (Book of the Southern Barbarians)* (Ithaca: Southeast Asia Program, Cornell University, 1961), p. 41. A similar, but much shorter account of the people of Wangjuzi, is contained in j. 239 of the *Xin Tang shu* of 1060 CE.

[43] A city located near today's Baoshan in Yunnan Province.

[44] See also Luce and Oey, *Man Shu*, p. 60.

[45] A *li* was equivalent to approximately one third of a mile.

fewer than in Yuedan. All are left in the wild, and no stables are established for them. Only at Yangjumie 陽苴咩, Dali 大釐 and Tengchuan 遼川 are stables provided and there they feed several hundred horses.[46]

When referring to rhinoceros hide, Fan Chuo 樊綽, the author of *Man shu*, noted: "The barbarians generally use rhinoceros hide for armour, horse equipment and the armour and insignia of the cavalry."[47] In another passage, it is noted in passing that horse meat was also eaten. Again, the huge importance of the horse to these people of the Yunnan region is apparent from these texts.

THE HORSE IN ISLAND SOUTHEAST ASIA IN THE NINTH CENTURY

Although they were physically "mainland" Southeast Asian polities, the successive Champa polities were also intimately tied to the sea. There is evidence of horse use within the various Champa societies from possibly the seventh century onwards. Vietnamese archaeologists assign an eighth-century date to a pair of polo players featured on a frieze. Whether this is too early remains moot, but it may have been the case that polo was being played in Champa by the eighth century. My doubts about the date stem from the fact that the players ride with stirrups and full saddles, which do not appear in some later sculptures. The size of the horses suggests imported stock. (see pl. 43)

A ceremonial function for the horse in Champa can also be seen in a ninth-century image from a Dong Duong altar, which suggests that the horse is carrying an offering as part of a religious activity. The role of horses in entertainment is also suggested by a fragment showing a dancer performing on a horse bareback.

On Java, the monumental Buddhist stupa of Borobodur, created between the middle of the eighth century and the middle of the ninth century, constitutes one of the great vestiges of Mahayana Buddhism in the island. The monument is covered with wall reliefs depicting the life of the Buddha. While the age represented in the murals was nominally the fifth to the sixth century BCE, the way in which life, clothing and animals were depicted undoubtedly represented the daily-life known personally by the Javanese of the eighth and ninth centuries CE. A few horses are depicted, fully saddled and bridled, with stirrups.

HORSES IN EAST ASIA IN THE TENTH AND ELEVENTH CENTURIES

Following the period of disorder which occurred with the end of the Tang in the early tenth century, a new dynasty was to emerge. The first Song emperor declared the new dynasty in 960 CE and during the 160 years of the northern Song, the unwillingness of the northern nomad polities of the Jin, Liao and Mongols to provide the Song with a large number of horses, saw the Song establishing horse markets in Sichuan, where horses were traded for silk and tea.

But the horses proved not to be sufficient and the Song were pushed south of the Yangzi River in the 1120s partly through their lack of cavalry. It was then that major efforts were made to obtain further supplies of horses for the cavalry, and it was thus that the Song turned to the northern Southeast Asian polity of Dali 大理, the successor to Nanzhao, and also established more markets in Guangxi.

The horse was to play a significant role in relations between the Southern Song court and Champa. The *Song huiyao* 宋會要, which records details of the relations between the Song court and the polities surrounding the Song state, noted that in 963, the Cham ruler received in response to his tribute / trade mission to the Song a saddled horse from the Song emperor. Two white horses were given to the Cham ruler in 992 "as those of Champa liked white horses". This was repeated in 995 and "gradually this became a standing practice." However, for reasons not truly clear, in 1010 CE, the Champa king "also advised that while each year the Emperor conferred upon Champa white horses, they were not appropriate for use in the

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[46]   An alternative translation of this section is available in Luce and Oey, *Man Shu*, p. 71.
[47]   Ibid., p. 72.

their land and he requested that they be given two yellow-red[48] horses, armoured horses, horse masks (馬面), five swords and daggers decorated with silver flowers and gilded …"[49]

THE HORSE IN UPLAND AND MAINLAND SOUTHEAST ASIA IN THE TWELFTH CENTURY

In his *Lingwai daida* 嶺外代答 of 1178, Zhou Qufei 周去非, an author who lived during the Song dynasty, provides further details about horses in that nebulous region between South China and Southeast Asia. He notes that the "Southwestern barbarians" presented horses as "tribute" to the Song court. He also notes that most came from Dali and that they were brought there for sale by both various barbarian tribes and Tibetans.[50]

Dali was, at this time, an independent polity and one of the few paintings left to us from the Dali of the late twelfth century is a scroll depicting various aspects of Buddhism.[51] It depicts a horse next to an elephant showing respect to a deity.

Zhou Qufei, when writing of horse procurement policies of the Song state, recorded that "the Court's horse procurement policies in the south are administered from Yongzhou 邕州. The rare and strange items procured on the borders are also mainly brought together in Yongzhou." Yongzhou was the name of the city which was to become the modern Nanning, capital of Guangxi province.

He went on to provide further details: "During the Yuanfeng reign (1078-1086 CE), the Guangxi Military Office established an office with one official in Yongzhou, with sole responsibility for making arrangements for hoses purchases with the native officials of the Left and Right Rivers. In the third year of the Shaoxing reign (1133/1134) a Horse-purchasing Superintendency was established in Yongzhou. In the sixth year (1136/1137), it was ordered that the military command jointly control it."[52]

It appears from other sections of this text that most horses came from Dali, and then through Yizhou 宜州 (today's Yishan 宜山 in Guangxi). Yang Bin informs that the average annual quota for purchase in Guangxi was 1,500 head, but sometimes this figure reached 3,000 to 4,000 head. Fang Guoyu 方國瑜 estimated that the average scale of horse trading in Guangxi was worth about 70,000 taels of silver, based on 1,500 head per year and 30 to 70 taels per head.[53]

An interesting ritual use of horses was also detailed in the *Lingwai daida*:

> Fighting the White Horse: When a man of Guangdong / Guangxi experiences the death of the mother or father of his wife, then the son-in-law, when going to offer sacrifices, has to ride a white horse, with two placards and staff-bearers going ahead of him as guides. When he nears the home of his wife's family, he will stop the horse and wait. The wife's family will then have their two staff bearers face off against them. This is called "fighting the white horse". If the son-in-law wins, the sacrifices can be submitted. If he is not successful, then the sacrifices cannot be offered. It is thus that the son-in-law's side will certainly win, as only thus can the sacrifices be received.[54]

In his account of the country of Annam, Zhou notes that their "tribute" submitted to the Song court in 1156 C.E. included "six imperial horses, with corresponding saddles, bridles and reins, eight standard tribute horses, and five trained elephants".[55] It appears that at this time the Vietnamese continued to source their horses from the Yunnan region in the upper reaches of the Red River.

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[48] Likely chestnut-colour horses.

[49] Geoff Wade, *Champa in the Song hui-yao: A Draft Translation*, Asia Research Institute Working Paper No. 53 (December 2005), http://www.ari.nus.edu.sg/showfile.asp?pubid=371&type=2.

[50] Zhou Qufei (author), Yang Wuquan 楊武泉 (ed.), *Lingwai daida jiaozhu* 嶺外代答校注, Zhongwai jiaotong shiji congkan (Beijing: Zhonghua shuju, 1999), pp. 349-350. For a full translation of Zhou's text, see Almut Netolitzky, *Das Ling-wai tai-ta von Chou Ch'ü-fei. Eine Landeskunde Südchinas aus dem 12. Jahrhundert*, Münchener Ostasiatische Studien 21 (Wiesbaden: Franz Steiner Verlag, 1977).

[51] Painted by Zhang Shenwen 張勝溫 in 1180 CE, the scroll was produced for King Lizhen 利貞 of the Dali Kingdom. The scroll is today held in the Taipei Museum.

[52] Zhou Qufei, *Lingwai daida*, pp. 47-48.

[53] Yang Bin, "Horses, Silver and Cowries".

[54] Zhou Qufei, *Lingwai daida*, pp. 431-432.

[55] Zhou Qufei, *Lingwai daida*, p. 58.

Li Tana[56] notes that for Lý Đại Việt, one of the most important trade items was horses. Li cities the Vietnamese history *Việt sử lược* which records that in 1128, the Lý court ordered that the ordinary people be forbidden from riding on horses as a gesture of mourning for the recently deceased Emperor Nhân Tông.[57] This suggests a quite widespread usage of horses among the ordinary population. Horses were obtained through trade and raiding of the Mon-Khmer and Tai peoples to Đại Việt's west. The Viet reportedly captured 10,000 such horses in raids in 1012.

But trade was another route by which horses were obtained. Li notes also the importance of the (modern) Vị Long region as a source for these horses, to the degree where even Lý princesses were married off to indigenous nobility in that region.[58] The Viet used salt to trade for these horses. It appears that horses were one of the main reasons that Nanzhao was invited by local rulers to invade the Jiaozhou region (under the control of the Tang) in 846, 860, 862 and 863 and occupy it from 863 to 865. It also appears that this invitation was issued after Li Zhuo 李涿, the Chinese governor of the Tang protectorate of Annam, had enforced an unreasonably low price in the exchange rate between horses and salt.[59]

Horses were also one of the most important trade commodities that the Cham obtained from the Viet, and the *Song huiyao* notes that the Cham rode on horses obtained through trade with Jiaozhou.[60] Of Champa, Zhou Qufei noted:

> Champa … to the north abuts Jiaozhi and to the south borders Zhenla (Cambodia). It is subject to Jiaozhi and is always feuding with Zhenla. In the *guisi* 癸巳 year of the Qiandao reign [1173/1174], a Fujian person selected from Xiban 西班, obtained a post in the Jiyang 吉陽 Military Command,[61] as a sea-going official. He was blown by winds to Champa. There he observed how that country engaged in warfare with Zhenla on elephants, with neither side managing to score a firm victory. He thus discussed with the king the benefits of cavalry warfare, and taught them how to use bows and crossbows on horseback. The Champa king was greatly pleased, and he sent him by boat back to Jiyang with great rewards. The king then wanted to buy horses and he obtained a few tens. With these they battled and achieved victory. The following year they again came, with a large number of attendants. The Jiyang Commandery refused them as they had no horses and they then sent them to the Qiongzhou 瓊州 administration.[62] The Qiongzhou administration would not receive them and thus they angrily returned home. They never came again.[63]

Further details of this can be found in the *Song huiyao*:

On the tenth day of the ninth month in the second year of the reign (26 September 1175), there was command noting that that the *man* 蠻[64] king of the country of Champa had been in unofficial communication with the officials of Qiong[zhou], and had sent men in ships across the sea to Hainan to buy horses. The local officials had prohibited this and, angered, [the Chams] returned and looted people and property. It was ordered that the military official Zhang Shi 張栻 draft to give to the Qiong officials in response, instructing [Champa] that China's horses have never been permitted to be sent beyond the borders, and instructing them to return the people and other things plundered and to make no more disturbance in future. In addition, Zhang Shi was instructed to give written warning that the Court knows than Lin Baoci 林寶慈 of the Jiyang Army and the magistrate Wang Sanjun 王三俊 had guided people of Champa there to openly buy horses, with the aim of making great profits. Now this office will urgently obtain and check the records and memorialise in advice.[65]

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[56] Li Tana, "A View from the Sea: Perspectives on the Northern and Central Vietnamese Coasts", *Journal of Southeast Asian Studies* 37 (2006), pp. 83-102. See especially pp. 88-89. On horses also: Li Tana, "The Rise and Fall of the Jiaozhi Ocean Region", in Angela Schottenhammer and Roderich Ptak (eds.), *The Perception of Maritime Space in Traditional Chinese Sources*, East Asian Maritime History 2 (Wiesbaden: Harrassowitz Verlag, 2006), pp. 134-137.

[57] Li, "A View from the Sea", p. 88.

[58] Ibid., p. 89.

[59] For details of this period, see Keith Weller Taylor, *The Birth of Vietnam* (Berkeley: University of California Press, 1983), pp. 240-246. See also *Đại Việt sử ký toàn thư* ngoai ky 5, 8b-9a.

[60] Wade, *Champa in the Song hui-yao*, pp. 4-5.

[61] Located on the island of Hainan.

[62] Qiongzhou: the island of Hainan generally, and specifically Qiongzhou on the north of the island (located near the modern capital of Haikou), which was the seat of regional government.

[63] Zhou Qufei, *Lingwai daida*, p. 77.

[64] A generic term for non-Chinese.

[65] Wade, *Champa in the Song huiyao*, p. 27.

The Cham sculptures of this age occasionally feature horses, in their various social functions. One piece shows a pair of horses with a rider straddling the two animals, suggesting some sort of sport. The horse-drawn war chariot with seated archer had also become a part of regional warfare by the eleventh to twelfth century, as reflected in the following frieze fragment of that date from Binh Dinh. (see pl. 44)

In the great Angkorean empire which lay to the south and west of Champa, there is also material evidence of horse use at this time. On the bas-relief of Angkor Wat, built in the twelfth century, one sees the image of an army commander astride a horse. The horse is unsaddled, there are no stirrups and the horse is controlled by reins and a bit. (see pl. 45)

On the other side of mainland Southeast Asia, Zhou Qufei recorded that in Pagan, "they have horses which they ride unsaddled".[66]

Possible horse-trading links between India and Southeast Asia are also suggested by Zhou Qufei's account of Quilon in southern India, which includes the following: "The country of Kampar (Jianpi 監篦) yearly trades in horses and cattle, while the Arabs trade in horses, and they come to this country [Quilon] to sell their products."[67] It appears that Kampar is the place of that name located in Sumatra, while the reference to the Arabs (Dashi 大食) allows no specific origin to be ascertained. However, in another part of his text, Zhou records of the country of Ghazni (Jicini 吉慈尼) that it "raises many camels and horses",[68] which perhaps suggests one of the origins of "Arab" horses at this time. If Sumatran traders were trading animals to Quilon, it was entirely possible that they were also purchasing horses in Quilon for transport back to Sumatra, but this remains but conjecture.

THE HORSE IN SOUTHEAST ASIA IN THE THIRTEENTH AND FOURTEENTH CENTURIES

The Venetian traveller Marco Polo provides us with some interesting accounts of horses in Asia in the last decades of the thirteenth century. Of Maabar (a generic Arabic name for the Coromandel coast and parts of Malabar), he records:

> Here are no horses bred; and thus a great part of the wealth of the country is wasted on purchasing horses; I will tell you how. You must know that the merchants of Kis and Hormus, Dofar and Soer and Aden collect great numbers of destriers[69] and other horses, and these they bring to the territories of this king and of his four brothers, who are kings likewise as I told you. For a horse will fetch among them 500 *saggi* of gold, worth more than 100 marks of silver, and vast numbers are sold there each year. Indeed this king wants to buy more than 2000 horses every year, and so do his four brothers who are kings likewise. The reason why they want so many horses every year is that by the end of the year there shall be not one hundred of them remaining, for they all die off. And this arises from mismanagement, for these people do not know in the least how to treat a horse; and besides they have no farriers. The horse-merchants not only never bring any farriers with them, but also prevent any farrier from going thither, lest that should in any degree baulk the sale of horses, which brings them in every year such gains. They bring these horses by sea aboard ship.[70]

The ports from which these horses were obtained were obviously the island of Kish as well as Hormuz in the Persian Gulf, Dhufar which is south of Oman, Sohar the former capital of Oman, and Aden, which retains its name today. The horses of "Arabia" were obviously in great demand on the Coromandel Coast, and there is much likelihood that that appeal extended across the Bay of Bengal to the societies of Southeast Asia.[71]

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[66]   Zhou Qufei, *Lingwai daida*, p. 84.
[67]   Zhou Qufei, *Lingwai daida*, p. 91.
[68]   Zhou Qufei, *Lingwai daida*, p. 100.
[69]   Destrier is an historical term for a knight's war horse. The term destrier is derived from the vulgar Latin *dextrarius*, meaning "right-hand".
[70]   Henry Yule and Henri Cordier, *The Book of Ser Marco Polo, the Venetian, Concerning the Kingdoms and Marvels of the East*, 2 vols. (London, John Murray, 1903), II, p. 340.
[71]   Another source which reflects the same situation (and perhaps served as a source for Marco Polo), is Abdullah Wassaf's, *Tazjiyat-ul-Amsar*, of the thirteenth century, translated in Henry Eliot and John Dowson, *The History of India as Told by Its Own Historians: the Muhammadan period*, vol. 3 (London: Trübner and Co., 1867), pp. 31 et seq. Wassaf recorded: "It was a matter of agreement that Malik-ul-Islam Jamaluddin and the merchants should embark every year from the island of Kais and land at Ma'bar 1,400 horses of his own breed ... It was also agreed that he should embark as many as he could procure from all the isles

On mainland Southeast Asia, Marco Polo is also informative about the role of horses. In his description of the ruler of Mien (Burma) and his warfare with armies of the "Great Kaan" – the Mongol ruler – in the 1270s, Polo noted: "So the king prepared a great force and munitions of war; and he had, let me tell you, 2,000 great elephants on each of which was set a tower of timber, well-framed and strong, and carrying from twelve to sixteen well-armed fighting men. And besides these, he had of horseman and of footmen good 60,000 men."[72] The Mongol forces reportedly consisted of 12,000 horsemen.[73] The ensuing battle as described by Marco Polo is worth reading as an example of a battle between the Burmese elephant-led forces and the Yuan cavalry. The latter reportedly ended victorious through their use of better bows rather through any advantage of their horses.[74]

He also notes of the people of Anin[75] – a polity apparently somewhere in the hill tracts of the modern Yunnan or northern Burma – that: "They have plenty of horses which they sell in great numbers to the Indians, making a great profit thereby. And they also have vast herds of buffaloes and oxen, having excellent pastures for these."[76]

The mainland Southeast Asian trade routes, linking mainland Southeast Asia with Lhasa, with southern China, and with Bengal, along which horses as well as other were used and traded during the period from the thirteenth century are suggested by various studies.

The murals found in the temples of Bagan also provide us with a few examples of illustrations of horses of that period. The illustrations refer to either *Jataka* tales or more secular affairs, but whether the horses depicted reflect contemporary horses of thirteenth-century Pagan or imagined horses of the past remains unknown.

Looking further to the east, when we examine the standard dynastic history of the Mongol Yuan dynasty – *Yuan shi* 元史 – under the account of Xian 暹 (Siam), we read of the great ritual importance of horses in the relations between the Yuan court and polities to the south.

In the third year of the Dade reign (1299/1300 CE), the ruler of the country of Xian memorialised to the Emperor noting that when his father was on the throne, the Court conferred upon him a saddle and bridle, a white horse and gold-embroidered clothing. He requested that, in accordance with the ancient precedents, he also have these conferred upon him. The senor minister Öljäi-darqan advised: "Theirs is a small country. If we confer a horse upon them, I am concerned that their neighbours Xindu 新度 (India) and so on, will ridicule the Court." It was thus that the Emperor conferred upon him gold-embroidered clothing, but did not confer a horse.[77]

ISLAND SOUTHEAST ASIA

Zhao Rugua's 趙汝适 famous work *Zhufan zhi* 諸蕃志,[78] which is generally assigned the date of 1225 CE, is widely valued by scholars for the overview it provides of polities beyond China and the maritime trade

of Persia, such as Katif, Lahsa, Bahrein, Hurmuz, and Kalhatu. The price of each horse was fixed from of old at 220 dinars of red gold, on this condition, that if any horses should happen to die, the value of them should be paid from the royal treasury. It is related by authentic writers that in the reign of Atabek Abu Bakr of (Fars), 10,000 horses were annually exported from these places to Ma'bar, Kambayat and other ports in their neighbourhood, and the sum total of their value amounted to 2,200,000 dinars … They bind them for 40 days in a stable with ropes and pegs, in order that they may get fat; and afterwards, without taking measures for training, and without stirrups or other appurtenances of riding, the Indian soldiers ride upon them like demons … In a short time, the most strong, swift, fresh and active horses becaome weak, slow, useless and stupid. In short, they all become wretched and good for nothing..There is therefore, a constant necessity of getting new horses annually." See Yule and Cordier, *The Book of Ser Marco Polo*, II, pp. 348-349, Note 7.

[72] Ibid., II, pp. 98-99.
[73] Ibid., II, p. 101
[74] Ibid., pp. 101-114.
[75] Possibly just a phonetic representation of Yunnan?
[76] Yule and Cordier, *The Book of Ser Marco Polo*, II, p. 119.
[77] Song Lian 宋濂, *Yuan shi*, 15 vols. (Beijing: Zhonghua shuju, 1976), XV, j. 210, p. 4664.
[78] Zhao Rugua (author), Yang Bowen 楊博文 (ed.): *Zhufan zhi jiaoshi* 諸蕃志校釋, Zhongwai jiaotong shiji congkan (Beijing: Zhonghua shuju, 1996). For an English translation, see Friedrich Hirth and W. W. Rockhill (tr.), *Chau Ju-kua: His Work on the*

which tied these polities together in the early thirteenth century. The references relating to horses are found in the sections on Cambodia, Pagan, Lambri, Java and Gujarat:

> *Cambodia*. The description of Zhenla, the term by which the Chinese knew the polity of Angkor, included the following: "The adornment and clothing of the king is generally similar to that of the king of Champa, but in the ceremony and number of followers in his excursions, he exceeds him. Sometimes he rides in a carriage, which is drawn by two horses, or sometimes buffalo." It was further noted: "They have something in the order of 200,000 war elephants as well as horses which, although numerous, are small."[79]
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> *Pagan*. In a claim probably taken from the *Lingwai daida* reference noted above, Zhao noted: "The country has many horses which they ride unsaddled."[80]
>
> *Lambri*. It is recorded of this northern Sumatran polity that foreign traders coming to this place bring as trade goods, sandalwood, cloves, camphor, gold, silver, porcelain wares, horses, elephants and silks. It is also recorded that it annually offered tribute to Srivijaya (Sanfoqi 三佛齊).[81]
>
> *Java*. "In the fifth month, [the people of the country] go on excursions in boats, while in the tenth month, they go to visit the hills, travelling on either small horses or in a litter." Furthermore: "They slaughter horses and buffalo for food."[82]

An interesting artefact from East Java is a wheeled miniature horse in bronze, representing possibly a cavalry soldier of the Mongol forces which arrived in Java in the late thirteenth century. The horse is saddled, but stirrups are apparently absent.

There are several other known artefacts from Java of this period which reflect the roles of horses at this time. A Majapahit hanging lamp in bronze, featuring a man and a woman riding a horse, and dating from the fourteenth century, is held the National Museum, Jakarta.[83]

Gujarat. In the *Zhufan zhi* account of the kingdom of Gujarat, it is noted that "they have over 400 war elephants and about 100,000 war-horses. When the king goes out and about, he rides an elephant and wears a crown. His followers all ride horses and carry swords."[84]

There is also a wide range of references in *Zhufan zhi* to the role of horses in the various polities of the Arab world in the early thirteenth century, but these fall beyond the scope of this paper.

THE HORSE IN SOUTHEAST ASIA IN THE FOURTEENTH AND FIFTEENTH CENTURIES

Wang Dayuan's 汪大淵 *Daoyi zhilue* 島夷誌略 of 1349 provides the most detailed single account of Southeast Asian ports and polities for this period. It includes however only a small range of references to horses within the region. Of Panduranga, a Cham polity in what is today southern Vietnam, it is noted that "The country's ruler rides elephants or horses."[85] Separately, Ibn Battuta, of Java which he referred to as Mul-Jawa, noted that: "Nobody has horses there except the sultan."[86]

In examining the roles of horses in Southeast Asia in the fifteenth century, we have more numerous but not necessarily more detailed accounts. One of the key texts is the *Ming shilu* 明實録, a generic name for the successive reign annals of the Ming emperors, which provides a wide range of references to Southeast

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Chinese and Arab Trade in the Twelfth and Thirteenth centuries, entitled Chu-fan-chï (rpt. Taibei: Ch'eng-wen Publishing Company, 1967).

[79] Ibid., pp. 52-53 (for a similar translation).

[80] Ibid., p. 58.

[81] Ibid., p. 73.

[82] Ibid., p. 77.

[83] For details of this piece, see the *Treasures of Ancient Indonesian Kingdoms* exhibition catalogue (National Museum, Tokyo, 1997), p. 186.

[84] Hirth and Rockhill, *Chau Ju-kua*, p. 92.

[85] Wang Dayuan (author), Su Jiqing 蘇繼廎 (ed.), *Daoyi zhilüe jiaoshi* 島夷誌略校釋, Zhongwai jiaotong shiji congkan (Beijing: Zhonghua shuju, 1981), pp. 63.

[86] H. A. R. Gibb, *The Travels of Ibn Battuta A.D. 1325-1354* (translated with revisions and notes from the Arabic text edited by C. Defrémery and B. R. Sanguinetti, completed with annotations by C. F. Beckingham), 4 vols. (rpt. London: The Hakluyt Society, 1994), IV, p. 883.

Asia,[87] including many references to horses in Southeast Asia (including the many Tai polities of "Yunnan") over the fourteenth to sixteenth centuries. Roderich Ptak has used some of these references in detailing the Asian maritime trade in horses in the fifteenth century.[88] The *Ming shilu* references of relevance to this paper are those up to the end of the fifteenth century, and they reveal the diverse functions of horses during this age.

The horse as ritual gift. The Ming emperors occasionally gave Southeast Asian rulers saddled horses as some form of recognition and probably as a means to allow those rulers to assert their authority within their own societies. Here is one example: "A gold and jade belt, ceremonial insignia and a horse with saddle were conferred upon Parameswara, the king of the country of Melaka. Headwear and robes were conferred upon the king's consort."[89]

The ruler of Champa was also given horses in reward: "I am now conferring on you gold dragon robes, fine horses and other goods. They are for your receipt."[90] Similar gifts of saddled horses were made to rulers of Sulu in 1417.[91]

The horse as a form of taxation. In areas of Yunnan, local polities were subject to Ming economic demands which included silver, gold and horse payments in lieu of corvée labour. "When these orders arrive, payment of all the gold, silver and horses due in lieu of labour before the fourth year of the Zhengtong reign (1439/40) is to be temporarily exempted and the recovery of government property (追官物) is to be halted."[92]

The horse as a transportation tool. When Ming forces were sent against the Tai Mao leader Si Jifa 思機發 in 1449, "over 1,000 horses were sent for the purpose of carrying grain".[93]

The horse as a communication tool. When the Ming invaded and occupied Đại Việt, they quickly established a range of offices to control, administer, and economically exploit the region. One of the earliest types of offices to be established was the horse station to allow the new colony / province speedy communication with the metropole. For example, in the first year of occupation, we read: "Seven courier horse stations were established at Jiang 姜 Bridge in Qinglian 清廉 County, Bao Fu 保福 in Baofu County, Jialin 嘉林 in Jialin County, Shi 市 Bridge in Wuning 武寧 County, Yongan 永安 in Pinglu 平陸 County, Shengyao 生藥 in Liping 黎平 County and Qinzhan 芹站 in Baolu 保祿 County".[94]

The horse as tribute. Polities in Southeast Asia often submitted horses to the Ming state as part of their "tribute gifts", which were in effect trade goods. The following example relates to a 1376 mission from Lampung in Sumatra: "The envoy Wulalilasha 吾剌里剌沙 and others who had been sent by Sri Maharajhadhirat, the king of the country of Lanbang 覽邦, presented a memorial and offered tribute of horse, sapan-wood, as well as sandalwood, laka-wood, pepper, peacocks and other goods."[95]

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[87]   For English translations of *Ming shilu* references to Southeast Asia, see Geoff Wade (tr.), *Southeast Asia in the Ming Shi-lu: an Open Access Resource* (Singapore: Asia Research Institute and the Singapore E-Press, National University of Singapore), at http://www.epress.nus.edu.sg/msl/.

[88]   Ptak, Roderich, "Pferde auf See: ein vergessener Aspekt des maritimen chinesischen Handels im frühen 15. Jahrhundert", *Journal of the Economic and Social History of the Orient* 34 (1991), pp. 199-233.

[89]   *Ming Taizong shilu*, j. 118, 1a (20 Aug 1411).

[90]   *Ming Taizu shilu*, j. 126, 5a (10 Nov 1379).

[91]   *Ming Taizong shilu*, j. 192, 2a (18 Sep 1417).

[92]   *Ming Yingzong shilu*, j. 71, 3a (28 Sep 1440).

[93]   *Ming Yingzong shilu*, j. 179, 7b-8b (8 Jul 1449).

[94]   *Ming Taizong shilu*, j. 68, 3b-7a (5 July 1407).

[95]   *Ming Taizu shilu*, j. 108, 2a (1 Sep 1376).

Similar examples of polities submitting horses to China as "tribute" are seen for Java (1377),[96] Champa (1378),[97] Siam (1389),[98] Samudera (1409),[99] Bengal (1412),[100] Burma (1413),[101] Lanna (1450),[102] Cambodia (1452),[103] Laos (1424)[104] and other However, these all appear to have been in small quantities.

The source of some of these horses is suggested by the fact that in 1415, the Javanese ruler submitted to the Ming court "Western horses" (西馬), suggesting an Arab source.[105] The fact that the Chinese chroniclers made special mention of the origin of these horses suggests that the usual horses submitted were locally produced.

Some polities obviously had access to a greater number of horses than others. Those predominantly Tai and Austroasiatic polities of the northern Southeast Asian highlands provided horses to the Ming in larger quantities. Jingdong 景東 (Kengtung in the modern northern Burma) is an example: "E Tao 俄陶, native chieftain of Jingdong, presented 160 horses, 3,100 *liang* 兩 of silver and two trained elephants. It was Imperially commanded that Jing-dong Prefecture be established, that E Tao take charge of prefectural affairs and that patterned fine silk robes be conferred upon him."[106]

Most of the Tai polities of what are today Yunnan or northern Burma provided horses as "tribute" to the Ming court, and a vast range of such references can be gleaned from the *Ming shi-lu*.

The horse as a war tool. From the *Ming shilu* references we can observe that, like the Ming forces, the Vietnamese also used horses as a war tool, but not necessarily for cavalry. In discussing Ming attacks on Vietnamese who were opposed to the Ming occupation of Đại Việt, we read: "The Imperial army pursued him to Jili Ce 吉利冊 in Meiliang 美良 County, where Jian Ding 簡定 and his gang were lodging with the people. When they saw in the distance the strength of the Imperial army, they left their horses as well as their seals, belts and other property and fled into the hills to hide."[107]

The use of the horse by the occupying forces in Đại Việt is shown by what Lê Lợi, the victorious Viet leader, sent back to the Ming after driving their forces out in 1427: "There only remained 280 military officials, 157 civil officials and clerks, 15,170 soldiers and 1,200 horses."[108]

When engaged in wars of expansion on its southern (Southeast Asian) border, the Ming also required the provision of horses from polities it had forced or threatened into submission. An example from 1433 when preparations for war among the Tai polities in Yunnan was being planned is instructive:

Native officials from the three pacification superintendencies of Mubang 木邦, Luchuan 麓川 / Pingmian 平緬 and Ava-Burma, the three prefectures of Mengding 孟定, Jingdong and Wusa 烏撒, the seven subprefectures of Weiyuan 威遠, Guangyi 廣邑, Zhenkang 鎮康, Wan Dian 灣甸, Nan Dian 南甸, Dahou 大侯 and Tengchong 騰衝, the Lujiang 路江 Pacification Office and the four chief's offices of Ganyai 干崖, Chashan 茶山, Wa Dian 瓦甸 and Menglian 孟璉 all offered tribute of elephants, horses and local products. The eunuch official Yun Xian 雲仙 and others had been sent to confer Imperial orders of comfort on them and also to confer upon them ramie-silk, silk gauzes and velvet brocades as appropriate. At this time, the Mubang Pacification Superintendent Han Menfa 罕門法 memorialized that the Luchuan / Pingmian Pacification Superintendent Si Renfa 思任發 and others had attacked and occupied his territory. Si Renfa and Mang Dela, the pacification superintendent of Ava-Burma, also memorialized that Han Menfa had used troops to invade their territory and commit depredations. The Menglian Chief's Office also memorialized that Mengding Prefecture had attacked and occupied its territory. The Emperor ordered the regional commander and Qianguo Duke 黔國公 Mu Sheng 沐晟, the three offices of Yunnan and the regional inspecting censor to

[96]   *Ming Taizu shilu*, j. 116, 1b (9 Dec 1377).
[97]   *Ming Taizu shilu*, j. 121, 1b (25 Nov 1378).
[98]   *Ming Taizu shilu*, j. 195, 2a (12 Feb 1389).
[99]   *Ming Taizong shilu*, j. 97, 4a (3 Dec 1409).
[100] *Ming Taizong shilu*, j. 129, 4a-b (30 Jul 1412).
[101] *Ming Taizong shilu*, j. 145, 3b (20 Dec 1413).
[102] *Ming Yingzong shilu*, j. 192, 4a-b (14 Jun 1450).
[103] *Ming Yingzong shilu*, j. 219, 10a (11 Sep 1452).
[104] *Ming Renzong shilu*, j. 2C, 4a (10 Oct 1424).
[105] *Ming Taizong shilu*, j. 162, 3b (29 Apr 1415).
[106] *Ming Taizu shilu*, j. 143, 3a (13 Apr 1382).
[107] *Ming Taizong shilu*, j. 98, 1b-2a (16 Dec 1409).
[108] *Ming Xuanzong shilu*, j. 64, 4a-5b (3 Apr 1430).

ascertain the veracity of the claims and to decide the cases appropriately. The Mengyang 孟養 Pacification Superintendency was re-established and Dao Mengshu 刀孟墅, the son of Dao Mengdan 刀孟旦, the deceased pacification superintendent, was appointed as pacification superintendent, and required, together with the deputy Dao Yubin 刀玉賓, to pacify the soldiers and people and to fulfil tribute obligations and pay taxes like before."[109]

In 1469, we have the following Ming order preparing for major warfare: "It was ordered that the *fan* and the *yi* in the areas of Yunnan, Guizhou, Huguang, Sichuan and Guangxi present horses and that the horses be immediately provided to the border military forces for cavalry training."[110]

The horse as war booty / reparations. When the Ming forces fought against and defeated the Tai Mao polity of Luchuan in the 1380s, the following orders were sent:

An envoy was sent with instructions for the Xiping Marquis 西平侯 Mu Ying 沐英. The instructions read: "Your report has recently been received and it is known that you have destroyed the Baiyi 百夷 and that Si Lunfa 思倫發 has fled. … If they want to offer tribute and request that the troops be withdrawn, you should instruct them in the Great Precepts of Right Conduct, require them to repay the funds we have expended and have them present to the Court 15,000 horses and the bodies of troops who were killed in Jingdong. They are also to be instructed to offer as tribute 500 elephants, 30,000 buffalo and 300 elephant attendants. If they listen to orders and offer tribute in the amounts specified, their request to surrender should be allowed."[111]

A further reference notes of one of the battles:

In the 21st year (1388/1389), the Baiyi occupied strategic positions and engaged in revolt. The bandit general Dao Silang 刀思郎 and so on gathered over 100,000 troops and over 100 elephants against the opposing force. Zheng 正 led the troops in following the Xiping Marquis Mu Ying into battle. They killed two generals and the bandit troops fled. All of the enemy's elephants and horses were captured.[112]

As noted above, in many cases, polities on the southern Chinese / northern Southeast Asian borders were required to submit horses as annual tribute to the Ming court. These were not necessarily fine animals as is illustrated by the following entry:

Previously, as many of the horses presented in lieu of labour by the *yi* people under Yunnan could not be used, the three offices of Yunnan memorialized and obtained approval for a proposal that for each horse due, an amount of 13 *liang* of silver be levied, and that the silver so obtained be stored in the treasury until there was an expedition, when it could be provided to the army for purchasing horses and paying for training. At this time, the *yi* people all complained that the silver price was too heavy and that they wished to continue to pay in horses. The Emperor, considering that they were distant *yi*, allowed this for their convenience.[113]

How did the eunuch-led Ming naval expeditions of the early fifteenth century affect the horse situation in Southeast Asia? The armadas did take with them a large number of horses and had ships dedicated to their transport. Haraprasad Ray notes that during the treasure ship voyages, horses were the most costly item of all sought by the Chinese missions. Indian horse traders had sought horses through Sindh, Gujarat, Punjab and Uttar Pradesh and even to Chittagong, but the Indians could not meet the demands of the Chinese. It was thus that Yongle had established horse markets to the north of China to allow Jurchen and Mongols to sell horses and camels in exchange for textiles, grains etc.[114] Also in the 1420s, Bengal was re-exporting to China horses and saddles. The saddles were worked in gold and silver. The origin/s of these products is not clear, but Ray suggests that these were not local products.[115]

[109] *Ming Xuanzong shilu*, j. 106, 8b (15 Nov 1433).
[110] *Ming Xianzong shilu*, j. 63, 2b (19 Feb 1469).
[111] *Ming Taizu shilu*, j. 190, 3b (25 May 1388).
[112] *Ming Taizu shilu*, j. 245, 5b-7b (3 Jun 1396).
[113] *Ming Yingzong shilu*, j. 163, 2b (9 Mar 1448).
[114] Haraprasad Ray, *Trade and Trade Routes between India and China c. 140 B.C.-A.D.1500* (Kolkata: Progressive Publishers, 2003), pp. 8-9.
[115] Ibid., p. 108, 115.

The account of the early fifteenth-century Ming voyages left to us by Ma Huan 馬歡 and Fei Xin 費信 provide some further observations about horses in Southeast Asia at this time. Ma Huan notes of Champa that "their horses are short and small, like donkeys",[116] while Fei Xin wrote of tribal headmen riding these horses.[117] Of Java, Ma noted only that horses but not donkeys existed there,[118] while in Malacca "donkeys and horses are entirely absent".[119] This latter comment was also recorded of Cochin,[120] while horses were noted as being present in Bengal[121] as well as in Dhufar, Hormuz and Mecca.

Of Calicut, Fei Xin noted: "They can breed good horses. The horses come from the Western *fan* 蕃,[122] and the purchase of an individual horse can involve the transfer of hundreds or even thousands of gold coins. In this country, if horses are brought in from the Western *fan* and then the horses of this country are brought but not sold, there will be claims that the country is impoverished."[123]

<div align="center">CONCLUSIONS</div>

As noted in the introduction, this paper is certainly not intended as a systematic history of the horse in pre-1500 Southeast Asia. Rather, it is intended as a way to provide more materials for such an effort in future. We have seen horses as war tools, aids in the hunt, ceremonial animals, symbols of status, tribute objects, trade goods, commodities, toys, decorative subjects, courier carriers, tribute components, entertainers, food, chariot pullers, a taxation form, war booty and in a range of other functions. They were obviously hugely important parts of the lives of the people of the northern mainland Southeast Asian mountain and plateau regions, and not insignificant in the lives of the elite and military in island Southeast Asia from at least the beginning of the second millennium.

Both Clarence-Smith[124] and Boomgaard[125] note that the local horses of Southeast Asia have always been small, with the logical extension being that larger horses would provide one with increased prestige. We have seen many examples above of Indian and Southeast Asian rulers trying to obtain horses from Ferghana or Bactria and from the Chinese court for presumably status purposes.[126] When the Dutch East India Company (VOC) established its power in Southeast Asia in the seventeenth century, it apparently played to this preference through both obtaining West Asian horses for local courts and running its own stud farms.[127]

We can state that the horse has been used in warfare in northern Southeast Asia from perhaps 500 BCE, but its use as a weapon of war was much restricted in tropical areas to the south, due to terrain and possibly also of tropical diseases to which the horse is susceptible. Charney notes that "If this were true for Southeast Asia (that many areas that demanded cavalry did not have suitable horse breeding areas) it would help to explain in part the disparity of cavalry forces between mainland and archipelagic states. The wet, tropical climate of coastal Arakan, Burma, Ayudhya, Cambodia, Vietnam and the Western archipelago, where rainfall is heaviest, did not favour horse health or longevity. The marshland of south-eastern Sumatra, the

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[116] J. V. G. Mills (tr., ed.) *Ma Huan: Ying-yai sheng-lan. "The Overall Survey of the Ocean's Shores" [1433]*, Hakluyt Society Extra Series (Cambridge: Cambridge University Press, 1970), p. 81.

[117] J. V. G. Mills (tr.), Roderich Ptak (notes, ed.), *Hsing-ch'a Sheng-lan. The Overall Survey of the Star Raft by Fei Hsin*, South China and Maritime Asia 4 (Wiesbaden: Harrassowitz Verlag, 1996), p. 34.

[118] Mills, *Ma Huan*, p. 92.

[119] Ibid., p. 112.

[120] Ibid., p. 137.

[121] Ibid., p. 162; Mills and Ptak, *Hsing-ch'a Sheng-lan*, pp. 74, 76.

[122] A generic term referring to the people and polities of modern Tibet and Central Asia, and possibly even of West Asia.

[123] 其能蓄好馬，自西番而來，動經金錢千百為疋。其國若西番馬來，本國馬來不買，則議為國空之言也。See also Mills and Ptak, *Hsing-ch'a Sheng-lan*, p. 69.

[124] Clarence-Smith, "Horse Breeding in Mainland Southeast Asia and Its Borderlands", p. 189. He notes that Southeast Asian native breeds consist mainly of ponies (under 14 and 1/2 hands).

[125] Boomgaard asserts that all pre-modern Southeast Asian horses were small. "Large horses, therefore, were at a premium, and they were perfect gifts to be bestowed upon or presented by rulers." Boomgaard "Horses, Horse-trading", p. 211.

[126] It is probably thus, as Boomgard suggests, that horse breeding in Southeast Asia is connected with royal courts. Ibid., pp. 228-229.

[127] Ibid., pp. 211-213.

Malay peninsula, and Borneo may have discouraged the horse altogether for much of the early modern period…."[128] Charney notes that the chariot was rarely used in warfare in Southeast Asia,[129] but as shown above, there are certainly examples of such use in Champa in the eleventh and twelfth centuries.

The deforestation of southern China over the last two thousand years provided a less suitable environment for elephants and an environment more suited to the horse[130] and it appears that similar changes took place at least in the major river valleys of Southeast Asia. The study of the horse thus needs to be tied closely to the ecological history of Southeast Asia. Clarence-Smith asks the question succinctly: Did the introduction of horses result in significant environmental change in terms of deforestation and spread of grasslands?[131] And did the decline of the elephant in the second millennium result from the rise of cavalry as war tool?[132]

One of the most intriguing theses relating to the horse in Southeast Asia is that proposed by Clarence-Smith in terms of the relationship between Islam and use of the horse. He suggests that the coming of Islam presaged a decline in the use of elephants in Southeast Asia, with Hindus using elephants and Muslims horses, such that tamed elephants died out completely in Sumatra.[133] "In military terms, the coming of Islam might have been expected to hasten the promotion of the horse at the expense of the elephant, especially when Middle Eastern models came to prevail over South Asian ones."[134] While evidence for the earlier (pre-1500) period is thin, the thesis certainly deserves measuring against the evidence that does exist.

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[128] Charney, *Southeast Asian Warfare 1300-1900*, p. 171.
[129] Ibid., p. 164.
[130] See Mark Elvin, *The Retreat of the Elephants. An Environmental History of China* (New Haven: Yale University Press, 2004).
[131] Clarence-Smith, "Horse Breeding in Mainland Southeast Asia and Its Borderlands", pp. 189-90.
[132] Ibid., p. 271.
[133] Clarence-Smith, "Elephants, Horses, and the Coming of Islam to Northern Sumatra", p. 271.
[134] Ibid., pp. 280-281.