Gandhāra and the formation of the Vedic and Zoroastrian canons

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Summary

After[1] several hundred years of text composition and accumulation, from the RV down to the Upaniṣads and the oldest Sūtras, the actual process of canonization remains unclear, just as the time and place where this took place for many individual texts. While the texts of the grammarians Pāṇini and Patañjali provide some inkling of the end of the canonization process, Pāṇini's date remains uncertain and Patañjali's (150 BCE) is too late. However, looking at the problem both from a macro-Indian and a comparative Southwest Asian point of view provides indications of when and how canonization took place in Vedic India, and in Zoroastrian Iran. A key factor in this development was the little understood role of Gandhāra, a Persian province from c. 530-326 BCE. The known Persian insistence on collection and formation and writing down of local canons, from Egypt to Israel and Ionia, allows assuming that Gandhāra and neighboring Arachosia played a similar role for the formation of the Vedic and Avestan canons, along with the concurrent normative description of Vedic and Sanskrit grammar by Pāṇini. Mutual interaction and various forms of reactions, such as the stress on oral preservation, between Gandhāra, Arachosia (Zoroastrian canon) and Kosala-Videha area (Śākalya Ṛgveda, Baudhāyana Śrautasūtra) are indicated, and the various local responses to Persian cultural policies discussed.

[1] An early version of this paper was given at Brown University in the autumn of 2003, and again in the present conference.

§ 1 Canon formation in India: stress on extremely correct pronunciation

After hundreds of years of text composition and accumulation, from the RV down to the Upaniṣads and the oldest Sūtras (c. 1200-500 BCE), the actual process of canonization remains somewhat unclear, just as the exact time and place where this took place. While the texts of the grammarians Pāṇini (350 BCE?)[2] and Patañjali (150 BCE) provide some inkling of the end of the canonization process, Pāṇini's date remains uncertain and Patañjali's (c. 150 BCE) is too late.

As is well known, all these texts, Pāṇini's included, were *oral* texts. In fact, script did not exist nor was it used[3] in India proper before Asoka. Apart from the so-called Indus script, which rather seems a system of signs not directly tied to spoken language(s),[4] writing in India proper begins with the rock and pillar inscriptions of great Emperor Asoka, in mid-third century BCE.[5] It emerges with a fully developed quasi-alphabetical Brahmī script that can be traced back, by and large, to the Kharoṣṭhī and Aramaic scripts,[6] as used in the Persian empire. A new script, such as Kharoṣṭhī or Brahmī do not necessarily derive from a long period of development, which is clearly seen in the contemporaneous effort of King Darius (or his court, in 519 BCE) of creating an "Aryan" script[7] that is vaguely based on Akkadian/Elamite cuneiform, but much simplified. The emergence of Kharoṣṭhī follows a similar track, as will be discussed later.

Be that as it may, we have *no* evidence of writing, either in archaeology or in texts before Asoka. The Persian province of Gandhāra of course represents a different proposition, to which we will return in great detail. By contrast, we find in India, apparently unique in

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[2] See the approximate determination of his date in CARDONA (1976) 1997:16, 19.

[3] More on the use of imperial Persian Aramaic further below.

[4] FARMER, SPROAT and WITZEL 2004: 19-57.

[5] Earlier dates have been proposed, such as the archaeologically based ones allegedly from the 8th cent. BCE onward for Sri Lanka; however, as FALK 1993 and HINÜBER 1989 indicate, script is not found in texts before Asoka.

[6] See discussion in SALOMON 1998: 42 sqq. – The origin of the strange name *kharoṣṭhī* 'donkey lip' remains unclear; it may have been a nickname, for the northwestern people/script, see Mbh 8.30.11 *pañcānāṃ sindhuṣaṣṭhānāṃ nadīnāṃ ye 'ntar āśritāḥ* ... 17. ... *mattāvagītair vividhaiḥ kharoṣṭraninadopamaiḥ*; cf. SALOMON 1998: 53.

[7] See below n. 43.

the world, an extra-ordinary stress of learning texts by heart, and on extremely correct recitation.[8] Not that this has been without exception, especially in the earliest period. We know that the transmission of the Ṛgveda has undergone some small phonetic changes[9] down to the time of its compilation under the Kuru kings (c. 1000), however, they do not impinge on the actual wording.

However, when Ṛgveda mantras were appropriated by priests of the other three incipient Vedas, there were more serious changes in sounds, wording and even whole stanzas.[10] After the establishment of the four Vedas and their schools (*śākhā*) in Kuru time, the texts of the *śākhā*s have preserved their own individualistic, *prati-śākhā* pronunciation.[11]

Even after the first Kuru collection, small phonetic changes still occurred, down to the time Pānini (c. 350 BCE), who records some of them[12] and quotes from several Vedic texts.[13] The final redaction of the Vedic texts took place a little earlier than his time (though some remaining different school opinions could still be quoted by him). In sum, ever since the earliest Vedic texts the stress has been on perfect reproduction, as per school.[14]

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[8] A well-known feature of Vedic recitation, just as in R. BRADBURY's book and the film, *Fahrenheit 420*, that in Indian consciousness goes back all the way, perhaps, to RV *akhkhalī kṛ*, and certainly back to the post-Ṛgvedic myth of Tvaṣṭṛ's son Viśvarūpa and his fatal encounter with India: as he mispronounced the Bahuvrīhi compound *índraśatru,* he was killed by Indra (TS 2.4.12.1, MS 2.4.3, KS 12.3).

[9] Such as the change from consonant + *uv* > cons. + *v* (*súvar* > *svàr*), or the shift from *pavāka* to *pāvaka*, (see summary in WITZEL 1989: 97-264) that was pushed through in the whole text due to the so-called orthoepic diaskeuasis (OLDENBERG 1888).

[10] The RV Mantras have undergone some remarkable *perseveration* in non-RV texts during the period between their composition and their first collection under the Kuru kings.

[11] For example Śākalya's intervocalic *ḍ* > *l̤,* etc., *súvar* > *svàr,* while the Taittirīya Yajurvedins have preserved *súvar* (summaries in WITZEL 1989).

[12] Such as three types of Abhinihita Sandhi in 8.3.18-20. On this problem see now BRONKHORST 2007.

[13] *saniṃ sasanivāṃsam* (HOFFMANN 1991: 541- 546) is a quote from MŚS 1.3.4.2/VārŚS 1.3.5.16, and, according to HOFFMANN (1991: 544) one of the many indications for Pāṇini's lifetime (in the late Vedic period); further forms from KS 33.4, 35.10, 25.5, and in Pāṇ. 3.1.122, 4.2.28, 5.2.51 (THIEME 1935: 17), and even from lost texts, for example in case of the periphrastic aorists.

[14] And no longer on composition; however some composition by Brahmins continues, almost disregarded: the speculative hymns of AV 8-12, the *yajñagāthā*s and historical *ślokas* (see HORSCH 1956; WITZEL1997: 257-345.

§ 2 Canonization from a pan-Indian and west Asian point of view

Against the background of oral preservation of the four Vedas with their many schools, and their post-Saṃhitā texts, we can discern some activity of a final redaction of the texts at the two opposite ends of the Vedic area, in the extreme East (*prācya*, Bihar) and in the Northwest (Peshawar area), that is, in the 'colonial' territory of Videha[15] and in the Persian-occupied Gandhāra.

The Northwest,[16] traditionally called Gandhāra or more generally, *udīcya/udīca* "northern", is a traditionally conservative area, where, as the Kauṣītaki Brāhmaṇa (7.7.36-39) says, the "best speech" is found,[17] and where one would send one's sons "north" for study, down to the Upaniṣad era.[18] This is said in spite of repeated incursions from beyond the Hindukush of semi- or non-Indo-Aryan or Iranian tribes.[19] In fact, it is precisely in this 'northern' area, where Pāṇini (c. 350 BCE),[20]

[15] This general area is also homeland of the Buddha ("traditionally" 583-483 BCE, rather around 400 BCE, as per BECHERT 1982: 29-36. Buddha rejected the use of Vedic Sanskrit (*chandas*) in his teaching. See now: WITZEL 2009: 287-310.

[16] For a short overview of the evidence about Gandhāra and canonization, see WITZEL 2006: 457-499, §2.1.

[17] Where even today the Kalasha of Chitral retain many archaic traces in their language, and who still offer to *Indra*.

[18] BĀU 3.3, 7. Note that the 'northern' language is regarded as better than that of the dominant central area *(madhyamā diś*) of Kuru-Pañcāla – the later Āryāvarta – not to speak of the despised Eastern language (JB 1.338). Much later, the Jātakas (post-canonical, c.500 *CE*!) even speak of a Taxila university.

[19] Note that Herodotus, *Histories* III 97 sqq. (c. 420 BCE) describes the *Gandaroi* as being very similar in customs (and language!) to people on the northern side of the Hindukush, the eastern Iranians of Bactria.

[20] The exact date for Pāṇini, as conventionally given by Paninean scholars, depending on that of his successors Kātyāyana and Patañjali, both allotted a schematic time difference of c. 100 years. However, Patañjali's date, a contemporary of the Śuṅga king Puṣyamitra, is relatively firm. The little discussed items for Pāṇini's dating include: script, the Persians(?), a *bhikṣu-sūtra,* the Kamboja king, and a quote from a mid-level Vedic Śrautasūtra, Mānava Śrautasūtra (HOFFMANN 1991: 541- 546). All of this evidence comes from the post-conquest Persian period: Parśu (Persians? cf. CARDONA 1997: 276; Pāṇ. 5.3.117); *lipi/libi* (3.2.21) 'script' has *East* Iranian forms, instead of O. Persian *dipi,* which would require some time after c. 530 BCE to get adopted to eastern speech habits. The term for the king of the Kambojas, '*kamboja*' (4.1.175) could be assumed to be pre-Persian (note however *Kambyse*s as the official name of a Persian king, 529-22), but may rather be due to the weak structure of Persian rule in Gandhāra (cf. the semi-independence of a Bactrian sub-satrap just before Alexander's conquest, (see SHAKED 2004); thus, a Kamboja



stemming from the village of Śalātura at the confluence of the Kabul and Indus rivers, formulated his grammar that has been the normative description of Sanskrit until today. As we will see later, the formulation of his Aṣṭādhyāyī, consisting of some 4000 algebraic rules (on just some 35 small folios), was composed orally and taught *orally,* without the use of script. His rules (*sūtra*) are extreme short, meant to be learnt by heart.

On the other hand, Pāṇini knows of script, *lipi* or *libi*,[21] and even of books, *grantha* 'bound together', written on birch bark or palm leaves. A dichotomy thus appears: he stresses oral speech, whether of *bhāṣā* (his conservative local Sanskrit dialect)[22], or of the Vedas (Saṃhitā and Pada recitation).[23]

Importantly, he is aware of Śākalya's RV canonization, carried out in the extreme East, in his orally composed and recited *padapāṭha,*[24] the word by word analysis of the Ṛgveda Saṃhitā text. This automatically involves grammatical analysis (see below § 6-7). Interestingly, Śākalyas' name indicates that he belonged to the Śakala clan.[25] These Brahmins originally came from the west, from Central Panjab.[26] The Śakalas went east to find their luck in the 'new Vedic territories' of Kosala and

"king" may have existed *under* the satrap of Persian *Gandāra*, and note the splintered situation in Alexander's time with many apparently independent kings in the Panjab (kings Pōros, Abisarēs, Taxilēs, etc.) For the term *bhikṣusūtra* (4.3.110? of Pārāśarya) note Herodotus, c. 420 BCE, who speaks of ascetics in the Panjab. All of this points to pre-Alexander times, however closer to 350 BCE than to 450 BCE.

[21] See discussion by SCHARFE 2009: 29 sq.

[22] But he does not talk about any contemporary Prākṛt, such as his local dialect, a pre-Gāndhārī, except for letting the word *maireya* (6.2.70) slip in; he also does not mention other languages such as Persian, Greek etc.

[23] See WITZEL 2006: 457-499.

[24] Differently, BRONKHORST (1982, reprinted in his book 2007); he argues for a written Padapāṭha. – A Padapāṭha is first attested in AĀ 3.2.6 and perhaps in AB 5.4.3? (see RENOU, quoted in SCHARFE 2009: 74).

[25] It maybe that the Panjabi Śakalas had formulated an early redacted RV text (different from the one still recorded in ŚB 11.5.1.10 about the Purūravas hymn of 15 stanzas), and only under increasing Persian pressure moved to the east (cf. WITZEL 1989).

[26] AB 3.43. (Śakala also is the author of a Sāman, JB 3.93; Śakala Gaupāyana JB §92); the Śakala area is close to or inside Mahāvṛṣa territory (cf. *Saggala,* a Panjab town in Greek sources). Their move may have been be due to increased Persian pressure, perhaps as late as after the persecution of Daiva worhippers by Xerxes (486-65), detailed in his XPh inscription. However note the tribal movements, in the next note.

Videha, where King Janaka spent a lot of capital on Sanskritization and contests held for disputations of Brahmins (e.g., BĀU 3).

The question rises why did the Śakalas and other Kuru-Pañcāla Brahmins – as well as some Vedic tribes[27]– move eastward in the late Vedic period? Just because of new opportunities, or due to the conquest of the Panjab by the non-Vedic Persians a few decades before 500 BCE? The Persians are known to have exerted strong bureaucratic pressure on subjugated peoples with regard to local text collection, something not appreciated by Brahmins, who so far had enjoyed a monopoly on sacred texts (see further, below).

By contrast, Pāṇini composed his grammar right *inside* the Persian province of *Gandāra*. He lived in a culture that was aware of and used writing and books. One may therefore ask: why did he not use the readily available script to take notes or to write down his grammar? Kharoṣṭhī[28] or even in the somewhat impractical, vowelless Aramaic scripts were available to write down a manual*, even* a longer book (*grantha*), as Patañjali did indeed some two hundred years later, at c. 150 BCE.

As mentioned, the give-away in his own grammar is the very word for script: it is Persian, from Elamite *tippi* 'tablet') > Old Persian *dipi [δipi,* with spirant pronunciation as in English *the*] > East Iranian *lipi/ libi*[29] > Pāṇini *lipi/libi* (3.2.21. Writing clearly, was something new and foreign to the Brahmins of Gandhāra, even if they may have seen Akkadian and Elamite documents during the Persian expansion into the Indus area. Furthermore, script was used for the Persian administration (in Aramaic), for business and letters – something the land holding and cattle holding Brahmins of that period had no use for. Strong Persain influence is also seen in other early loan words from Persian: *pustaka*

[27] Such as the Malla (in Alexander's time in Rajasthan, according to JB, too, from a desert area, see WITZEL: 1989, 236), and the Vṛji, still known to Pāṇini in the Panjab but appearing as Vajji in northern Bihar in the Pāli canon. (For these tribes see WITZEL 1987:173-213). To be added are the Śākya, obviously of ultimately Iranian origins (cf. the Saka/Śāka tribes) but of unknown location before the Pali attestation in northern Bihar/southern Nepal.

[28] If an early form of Kharoṣṭhī was available, as is likely given the fact that it first appears in Asoka's inscriptions (c. 250 BCE) in a fully developed form (cf. SALOMON 1998: 47). However, Kharoṣṭhī is not precise enough – there are no long vowels – and Aramaic is not even precise both for Indian consonants and vowels. Nevertheless such transcriptions were possible, just as there now are Veda texts in Urdu script in Kashmir. Cf. also Andreas' theory of an Arsacide Avesta text written in contemporary characters see KELLENS (1998: 451-519), p. 484.

[29] WITZEL1980: 86-128.

'book, manuscript' *divira* 'writer', *mudrā* 'seal, coin', *karṣa* 'a weight', *bandī* 'female slave' (MP *banda-g*), even *pīlu* 'elephant' (OP *pīru,* NP *pīl*).

At the other end of the Vedic area, in Kosala-Videha, we notice a late Vedic, pre-Pāṇinean striving to fix both the Vedic canon and ritual.[30] The first closure and canonization of the RV is by Śākalya in his Padapāṭha that clearly delimited the inclusion and exclusion of certain hymns and stanzas in the 'standard' text.[31] In addition to the standardization of the RV, that of the solemn ritual was carried out in the East through the first Śrautasūtra, of Kāṇva Bodhāyana.[32] This took place well before Pānini's date of c. 350, more likely around 500 BCE, when the first great eastern kingdoms such as Kosala and Videha emerged. Śākalya is mentioned in the Śatapatha Brāhmaṇa (11 and 14), in the context of a Brahmanic disputation at the court of King Janaka of Videha. Along with some other eastern grammarians, he was already known to Pāṇini.

While Śākalya was an inhabitant of the East,[33] Pāṇini was, both according to Chinese tradition and according to a geographical analysis of his text and of the Veda schools he knows and quotes, a Gandhāra person.[34] It is remarkable that both are separated by a distance of some 1500 km, as the crow flies, which is testimony to widespread cultural and economic exchange in the late Vedic period after c. 500 BCE.[35]

In sum, we notice two types of reaction to foreign domination:

The Śakalas and other Panjab Brahmins (such as the composers

[30] WITZEL1997: 257-345.

[31] See discussion in WITZEL 1997, and note, again, that the eastern text, the ŚB, still knows of a Purūravas hymn of 15, not 18 stanzas.

[32] See now FUSHIMI 2007, for the then ongoing process of Sūtra formation.

[33] His Padapāṭha has eastern grammatical forms (see WITZEL 1989).

[34] See THIEME 1935; DESHPANDE 1983:111; SCHARFE 2009.

[35] As is in evidence by the wide-spread commerce connections of the archaeologically attested Northern Black Polished Ware and an early Upaniṣadic simile speaking of someone who is blindfolded, brought to Gandhāra and the gradually asks his ways back to his eastern homeland. – Also note the surprising knowledge of western items in Baudhāyana Śrautasūtra that was composed in Kosala: such as of camels, the countries of Araṭṭa, Parśu – and Gāndhāri (18.44). Bodhayana would have heard about the countries beyond the Indus and Sulaiman Range from people who had recently moved into his area, while he was composing his standard text, following prestigious neighboring Pañcāla Taittirīya tradition. Thus, another connection between eastern canon formation and northwestern tradition emerges.

of AB 6-8) moved eastward[36], while others, such as Pāṇini, continued to work on their texts and grammar in their traditional homeland. We may assume that the impetus towards fixing traditional texts (and ritual), toward canonization, was one of sustaining traditional Vedic orality – as well as standardization of the famous northwestern educated speech, *bhāṣā* – and a countermove against the introduction of script by the Persians, around c. 530 BCE. (This will be investigated further, below § 6).

§ 3 Zoroastrian Iran

Importantly, a movement towards canonization of Zoroastrian texts took place in a neighboring Persian province, that of Arachosia. The close relatives of the Vedic texts, Zoroaster's Gāϑās and the post-Zoroastrian Young Avestan texts[37] have undergone a similar development of their traditions, from purely oral transmission to initial collection of such materials in various parts of Greater Iran.[38] Details are more difficult to gather than for the Vedic case, as the Zoroastrian oral tradition was severely damaged during the first few hundred years of Islamic rule (650-900 CE). The earliest MSS (1205, 1323-4, 1352 CE) reflect a somewhat deteriorated pronunciation, as well as selection and restoration efforts that took place around 900 CE.[39]

Nevertheless, it is clear, that the same kind of texts existed in both traditions,[40] from Saṃhitā-like text collections to early interpretation and textual analysis.[41] This is reflected in our *current* Avesta text, where individual words, separated by pause in recitation, are divided in writing by placing a dot between them – in short, a Padapāṭha of the Avesta, and this alone has been transmitted.[42] In the present context, it

[36] Along with tribes such as the Mallas, Vṛji (Vajji) and Śākya.

[37] See now the initial section of SKJÆRVØ 2011: 55-91 for a summary.

[38] See KELLENS 1998. – Note the Ašəm Vohū prayer in Sogdian script of the 9th-10th cent CE (KELLENS 1998: 485 n. 58) and the quote in a Sogdian text of *Aryān Vēžan* (HENNING 1943: 68sq). Note also K. HOFFMANN's and KELLENS' concept of a Median vs. an Arachosian "Avesta" (KELLENS 1998: 513 sq.).

[39] KELLENS 1998: 472 sq; 478, 483.

[40] That is: Gāϑās ~ RV hymns; Brāhmaṇa type texts in Y. 19.9-21; the Vīdēvdād as a Sūtra type text. See WITZEL1997: 323; cf. now SCHARFE 2009: 74.

[41] The Farhang-ī ōim can be compared to the Nighaṇṭus and also to Yāska's Nirukta interpretations.

[42] This clearly is a school text, with all the quirks of this type of text: such as, Sandhi-prone suffixes (*-biio*, etc. are divided from the word by a dot, just as in Śākalya (by pause, later by *daṇḍa* stroke), and sometimes wrongly so: Y 29.2 *drəguuō.dəbīš,* Y. 30.11 (etc.) *drəguuō.dəbiiō,* from *dbiš/ṭbiš* 'to hate', (KELLENS and PIRART

is important to note that Darius's newly invited Persian script[43] also was aware of such analysis and used word dividers (a backslash: \). [44]

The question arises whether the congruence in both traditions could reflect an old Indo-Iranian tradition of learning the traditional texts by heart and teaching them to students with some analysis.[45] Or is this due to mutual influence of both traditions via the Gandhāra-Arachosia 'highway'? Or is it due to late congruence, as late as the early 7th c. CE, and not inconceivably under Indian grammatical influence?[46] This question will be further discussed below.

1988: 50, cf. now SCHARFE 2009: 83). Or, preverbs occurring at the beginning of a line are again represented (against the meter) just before the verb they belong to (KELLENS and PIRART 1988: 45 sq.). These procedures are similar to the insistence of the Prātiśākhyas (and subsequently the grammarians and Pandits) that the Vedic Saṃhitā texts have to be construed from the Padapāṭha. Note also that original Sandhi has sometimes maintained, such as in *–sca- ...* for *–s ca- (*KELLENS and PIRART 1988: 47; cf. now SCHARFE 2009: 77, 80).

[43] Shortly after 519 BCE: the old Persian version was added only subsequently to the Elamite/Akkadian text of the Behistun inscription. Darius himself says (in Elamite, DB IV 3) that he was the first to write in "Ariya", and the Elamite version clearly says that *Ariya* script was not available before "neither in clay nor on leather". Similarly, in the O. Persian version (DB IV 88) he says that his edict was written down on clay and parchment, read out to him, and sent to all his provinces. See now BAE, Chul-Bun 2001.

[44] Like the contemporary Akkadian (V), Elamite (\) versions and also in Urartian inscriptions (cf. SCHARFE 2009: 84 n. 103.) – SCHARFE, in his works (2002 and 2009: 74. 84), has discussed the Iranian Padapāṭha, concluding that it is due to Indian grammatical influences. – In later Indian scripts breaks are indicated by *daṇḍa* / . (Asoka however does not use *daṇḍa*s but gaps, not between words but between small groups of words/phrases, in Middle Indian "*sandhi*" so to speak; see JANERT 1972 (cf. SCHARFE 2009: 74 n. 48).

[45] Hymns composed, according to traditional poetics, by bards/poets (of various classes, for this see GOTŌ 2000: 147-161), just as the classes of poets in Ireland. The teaching of their compositions is perhaps indicated in the *Frog Hymn*, as per THIEME *akhkhalī kṛ* for **akṣarī-kṛ* 'speaking in syllables'. (1964: 63); note also that a RV poet should proclaim for the future (*yugá- úpara-*) 7.87.4.

[46] See now the detailed discussion by SCHARFE 2009: 77 sqq. – Note that the Arabic grammatical tradition appears ready-made in the 8th cent., influenced by Sasanide-Indian models, and the suspiciously Indian-like order of the Avesta alphabet. (See now the discussion by SCHARFE 2009: 84: SCHARFE comes to the conclusion that the current writing (with dots) of the Padapāṭha version of the Avesta was due to a combination of the strong traditional recitation and Indian grammatical influences, between the 4th and 6th cent. CE).

The parallel case of the Avesta corpus

We cannot be entirely sure about the exact form of the Avestan texts[47] in Darius' time as we depend on their Sasanide archetype[48] or rather, with J. KELLENS, on the re-constitution after the end of the 9th century.[49] Nevertheless, it should be noted that Old Persian uses a form of the name of the supreme deity, Ahura Mazda, which already has become a nominal compound (*a[h]uramazdā*) while it still was *mazdå ahura* in Gathic Avestan > Late Avestan *ahura mazdå,* which provides some indication of the timeframe involved between the Gāϑās, the Late Avestan texts and O. Persian.

If we combine this observation with K. HOFFMANN's Arachosian theory,[50] some interesting points can be made. According to this theory, Darius imported the Arachosian version[51] of the Avestan texts into the Persis as a counterweight to the predominance of a Median Maguš version and as a political move against the usurpation of Gaumāta and Vahyazdāta. Indeed, a *mazdayašna* –the O. Persian form[52] of the Avestan word *mazdayasna*– from Arachosia is frequently mentioned in his Persepolis Treasury Tablets, once next to a *maku* [*magu*].[53] After this import, certain O. Persian peculiarities (such as consonant + *uu* for cons. + *v*) were introduced into the Avestan texts.[54] Then, taking into account Darius' penchant in his inscriptions for word division by markers, we may assume some influence on contemporary oral Avestan *pada* consciousness.

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[47] For the process of collection and canonization see KELLENS 1998: 490 sqq. – I leave aside here KELLENS' conclusion about two traditions of Avesta transmission (1998: 478, 515 sq), one ritual-bound, as we do not have indications in our extant MSS and their Sasanian antecedents for the ritual praxis in the Persis of the 6th cent. BCE.

[48] See HOFFMANN 1991: 64, 710; HOFFMANN and NARTEN 1989. – Dated by KELLENS (1998: 488) around 620 CE.

[49] KELLENS 1998: 472.

[50] See HOFFMANN and NARTEN, 1998: 472 sqq. and KELLENS' summary of the arguments.

[51] Canonized, according to KELLENS (1998: 513) at the beginning of the 6th cent. BCE in Eastern Iran. – Cf. also WITZEL 2000: 283-338: "it is of interest that a Sogdian text locates *Airiianəm Vaējah* at the foot of the central mountain of Indian mythology, the *Sumeru*," see HENNING 1943: 68 sq. for Aryān Vēžan.

[52] See HOFFMANN 1991: 740.

[53] See WITZEL 2000. – As mentioned, interestingly, the Arachosian treasurer (*mazdayašna*) is once mentioned next to a Maku (*maguš*).

[54] See HOFFMANN 1991: 736-740.

Yet, Darius or his court did not invent a script for Avestan, or perhaps rather did not think it necessary to do so as there was a strong oral tradition. His own new Persian script still is not an alphabet but only a halfway syllabary[55] and as such was badly attuned to represent the more complex sounds of Avestan recitation.

Be that as it may, it is clear that we do not have a written Achaemenid Avesta text.[56] Nevertheless the very *idea* of a script for the "*arya*" languages could have been talked about by travelers, merchants and officials who had seen, and then got explained to them, some of Darius' inscriptions that were distributed by him to all provinces. As such, both hearsay knowledge, and then the actual use of Aramaic script, could have been brought to Gandhāra. This would include the use of oral and written word dividers for Old Persian. The latter idea could have been transported both into the recitation of Avestan and, across the Gandhāra-Indus border, into Vedic (for example to Śākalya's ancestors, the Śakalas of E. Panjab).

In sum, Avestan text collection and its selection and redaction by the Persians overlap with those of the Veda in Gandhāra and Videha. The relationship between Arachosia and the Persis, that between Avestan Arachosia and Vedic Gandhāra via the easy Kandahar-Kabul road, and that between Gandhāra and Kosala/Videha need to be explored in more detail, which will be undertaken now.

§ 4 Gandhāra and Persian thrust for canonization

How much influence traveled, mutually, between Arachosia and Gandhāra (script, text collection, grammatical analysis, Persian religious policy, etc.), and what were the reactions on both sides of the Iranian/Indo-Aryan divide?

Script and orality

Extensive evidence from other parts of the Persian Empire indicates that Aramaic language and script – as the official administrative language – was introduced in northwestern India in the last half of the 6th century BCE, after the conquest of Gandhāra by the Persians.[57]

[55] Somewhat like the Japanese Kana syllabary (O.Persian: *da, di, du, ma, mi, mu;* but *pa, pa-i* [pi], *pa-u* [pu]…), but also like the later Indian system in that *ma, mi, mu* etc. are treated separately from the word initial vowels *a-, i-, u-*.

[56] Note KELLENS (1998: 490, 513 sqq.) on the (dialect) difference between O. Persian and (Arachosian, Median) Avestan.

[57] We do not yet have Aramaic documents of the Persian period from Gandhāra

We also know that the simple Aramaic alphabet was soon[58] transformed into the Kharoṣṭhī script, which was used in the Northwest for many centuries to come. This was a script that was much better suited to represent the sounds of Indian languages than Aramaic, though it still lacked long vowels. In any case, it was a real, innovative alphabet, unlike the Old Persian one (which was more of a syllabary), – something that only the Greeks had achieved by that time, far distant, in the extreme west of the empire.[59] Whether its creation involved Gandhāra Brahmins, knowledge of sophisticated late Vedic treatises on proper pronunciation and phonetics[60] or even early grammarians is moot, though commonly found in the literature.[61]

There is an obvious lack in the sign inventories of early Kharoṣṭhī of the extent of phonological ordering that is seen Pāṇini's work (or rather, the appendix to it, the Śivasūtras). Instead, we have the non-phonemic ordering of the A-ra-pa-ca-na–(la-da-ba) system, which is derived from Aramaic.[62] A. GLASS stresses[63] that the most likely Kharoṣṭhī script developed in stages, in which increasingly sophisticated phonetic devices were added.

On the other hand, detailed phonetic discussions appear in the late Vedic texts Āraṇyakas and Upaniṣads, along with the names of the early grammarians Śākalya, Gārgya, Gālava – probably all easteners –

(however from Arachosia in Asoka's time); however, many Aramaic letters have been discovered in neighboring Bactria, see SHAKED 2004; his book on these documents unfortunately is still held up by the owner of the documents.

[58] Unfortunately we do not know exactly how and when the Kharoṣṭhī script was invented: certainly some time before its use in Asoka's Arachosian inscriptions (250 BCE); see SALOMON 1998: 47.

[59] However, note that some Greeks were in the service of Darius, etc. and as far as Gandhāra and Sindh: according to Herodotus (4.44) his admiral Scylax actually made the trip down the Indus and back to Mesopotamia. Was there a cultural influence on Gandhāra stemming from such Greeks? Or simple traders' talk, like Herodotus' story of the gold digging ants... The Greeks are also known to Pāṇini as **yavana* 'Greek', as seen in *yavanikā.*

[60] See now the detailed discussion of early Vedic grammatical analysis in SCHARFE 2009: 87sq.

[61] BÜHLER 1896; FALK 1993 (section 8.3.4), and SALOMON 1998: 30, assert that the creation of both Kharoṣṭhī and Brahmī involved Vedic/Brahmanic influences. – So also SCHARFE 2009: 72 sq.

[62] STAAL 2005 notes that the order of word-commencing vowels in the *Arapacana* order is Aramaic, not Indic: *aeiou,* not *aiueo*; the same is found with the vowel diacritics attached to consonants from top to bottom.

[63] A. GLASS, in his studies of Kharoṣṭhī paleography.



or Cākravarmana, Śākaṭāyana, etc.[64] These texts were traditionally roughly dated around the beginning of the Achaemenid era. However, if we take into account the redating of the lifetime of the Buddha,[65] and therefore a redating of late Vedic texts,[66] some of these persons will have lived in the mid-Persian period.

The lack of phonetic sophistication in Kharoṣṭhī, taken together with the comparatively late theoretical Brahmanical treatises, do not support strong Brahmanical influence on the development of the Kharoṣṭhī script; rather, common sense observations will have resulted in the same phonemic setup.[67]

However, on the Iranian side, nothing approaching the Kharoṣṭhī precision is found in scripts that evolved out of Aramaic.

The Brahmins and orality

The introduction of the Aramaic and the invention of the Kharoṣṭhī script, both innovations under the powerful Persian empire seriously impinged on the status and, theoretically, the practice of the traditional Brahmanical learning – of their texts so far transmitted only by rote repetition.

We can well imagine what kind of reaction the sudden possibility of written Veda texts – even in imperfect form[68] – might have had: certainly, a sort of democratization that meant, loss of status and, at a minimum, a loss of income for the ritualistic Brahmins. That threat may have inspired some Brahmins to resist attempts to encode texts in writing,[69] and to intensify mnemonic canonization, – something that indeed has occurred in the extreme east, in Videha, and is reflected in

[64] There are some earlier phonetic discussions in the Vedas, though rather incidental and not systematic: MS 1.7.3 (*vibhakti*)*;* the word initial accent of *índraśatru* MS 2.4.3, etc. SCHARFE, 2009: *passim* and p. 87 sqq. lists: THIEME's understanding of RV *akhkhalī -kṛ* as "uttering syllables", the thrice seven (sounds) referred to in Atharvaveda 1.6.1 (actually, both quite uncertain cases), the many 'etymological' homologies of the Brāhmaṇas, Aitareya Āraṇyaka, Chāndogya and Bṛhadāraṇyaka Upaniṣad.

[65] See BECHERT 1982, 29-36, cf. OLIVELLE 1996; note also Herodotus' description of Indian ascetics (Histories, *Histories* 3.97), c. 420 BCE.

[66] Cf. WITZEL 2009: 287-31.

[67] Compare cases of various independent inventions of scripts for the Cherokee and other Amerindians.

[68] Note that some Vedic ritual handbooks are now printed in Kashmir now both in Urdu and Nāgarī in the same book.

[69] Indeed, written Vedic texts appear only after c. 1000 CE (note Albiruni's testimony about Vasukra in Kashmir, and the earliest Veda MSS in Nepal).

Pāṇini's knowledge and in the compilation of his grammar in Gandhāra. Evidence for such resistance is visible in early Dharmaśāstra texts and in the contemporary Mbh 13.24.70 "those who write the Vedas, these surely go to hell".[70] Whatever the exact dates of these texts may be: it was forbidden to write down and copy the Veda.

The Persian thrust for written religious and law texts

Another factor that impinged on the traditional Brahmanical role as guardians of oral Vedic tradition was the conscious and concerted Persian policy to collect written versions of the sacred and law texts of their wide-spread subject populations. From Darius' era (522-486 BCE) onward the Persians tried to collect regional legal and religious traditions in written form, which obviously did not always succeed. Canon collection occurred everywhere from Egypt to Palestine, and even in the Greek speaking areas, where Homer was canonized around this period.[71] More importantly in the present context, it was also felt at home in Persia, by importing a new (version of) the Avestan texts from Arachosia and by the standardization of the very own Iranian (*ariya*) sacred text.

Similar developments occurred in Gandhāra. It is therefore difficult to think that this was all of a coincidence. We will investigate the role of India below.

From the post-Darius period, there is the evidence in the Hebrew Bible (Ezra 7:25), that reports the edict of Artaxerxes (464-435 BCE)[72] about canonization processes in Israel; it is in this period, as we know from other sources, that key parts of the Torah were finalized – supposedly under Ezra's direction, who served as a kind of minister of Jewish affairs at the Persian court:

> And you, Ezra... are to appoint scribes and judges to administer justice for the whole people of Transeuphrates, that is, for all who know the Law of your God. You must teach those who do not know it. If anyone does not obey the Law of your God – which is the

[70] Cf. Mahābhārata 1.1.208: "weighs more than the four Vedas"; HILTEBEITEL 2001: 100.

[71] See NAGY 1996: 113 sqq. on the development of the Homeric texts in several stages, with texts variations until c. 550 BCE, followed by some 200 years of a 'static period'.

[72] Or, as some argue, only under Artaxerxes II (405-359) in 398 BCE, see BRIANT 2002: 976 (French version, 1996).

law of the King – let judgment be strictly executed on him: death, banishment, confiscation or imprisonment.

As mentioned, the codification of Homer's epics also made significant progress, in Persian times,[73] while the 'final' text was fixed only by Alexandrian scholars in the 2nd cent BCE. Given the importance that these epics had since at least c. 700 BCE, they may very well have been used as *the codex* of the Greek provinces of the empire.

It may be deliberated whether the insistence of the Persian court on collecting law and religious texts of their peoples could be due to the fact that, at the time of Darius, their own Avesta texts were still in a state of flux: that is, with Karl HOFFMANN, the opposition between the *Magu* priests of Media vs. the Zoroastrian ones (*mazdayašna*) of Arachosia. It was to be decided, thus, what was "truly Zoroastrian," and incidentally also what was *ariya* (and Pārsa) vs. "foreign" (*dahyu*).[74]

The exact nature of the prevalent situation in Persia around 500 BCE is not well known. We know from an Assyrian inscription of c. 1000[75] about the Zoroastrian deity Assara Mazaš, while the date of Zarathustra and his eastern Iranian homeland is elusive.[76] As mentioned, the Old Persian court inscriptions have the later, univerbal form A[h]uramazdā, and show, later on, also some other Zoroastrian deities such as Miθra and Anāhitā, as well as the Haoma cult, of which beakers have been found in Persepolis.[77] For Avestan text use in the Persis, we do not have any direct account, except for the much later (1st mill. CE) legendary Pahlavi accounts that speak of a destruction of the text by Alexander, while a copy on some 12,000 skins was supposed to have been preserved at Balkh.

However, as mentioned, K. HOFFMANN has indicated that an Arachosian version of the text was introduced into the Persis during Darius' reign[78] that was subsequently transmitted there – just *orally* –

[73] Gregory NAGY argues that the Greek epics became fixed *around* 550 BCE (i.e. slightly *before* Darius), see NAGY 2001: 109-119; 1996: 110.

[74] Cf. BRIANT 1996.

[75] HINTZE 1998.

[76] Probably somewhere between Media and Eastern Iran (on the Kashaf river according to HUMBACH 1991.

[77] With inscriptions of the Arachosian treasurer (HOFFMANN 1991: 739). Note also the officials at the Persepolis court, as depicted in its reliefs, and the 'theological' name of officials (in HALLOCK 1969).

[78] For the close link of the Persepolis court with Zoroastrians from Arachosia, see HOFFMANN 1991: 736-740; note again the treasurer "who is in Arachosia". Cf. also HOFFMANN and NARTEN 1989: 80 sq.

for centuries, in form of a school text.[79] It clearly shows some influences of Old Persian pronunciation. This introduction brought about the concomitant import of Arachosian priests and officials. A certain *Masdayašna* is frequently mentioned in the treasury tablets. The O. Persian form °*yašna,* instead of correct Avestan °*yasna* is notable:[80] it means that the designation *masdayašna* was already Persianized shortly after 500 BCE. Taken together with the univerbal form A[h]uramazdā (instead of Late Avestan *Ahura Mazdå*), a strong Zoroastrian tradition is seen,[81] even before and concomitant with the import of Arachosian Avesta texts. However, this text was an *oral* one and not written down for another millennium.[82] Clearly, we have the following coincidence:

IRAN

(1) well attested word dividers in O. Persian inscriptions (c. 519 BCE sqq.),
(2) word division and *pada* analysis in the *school* text of the Avesta (apparently in the Persis, c. 500 BCE).

INDIA

(3) word division (orally, by pause)[83] along with underlying word analysis in Śākalya's Padapāṭha of the Ṛgveda text[84] (imported back to Gandhāra)
(4) theory and praxis of word division and of analysis in Pāṇini's grammar (c. 350 BCE)

In this scenario the intermediate, neighboring provinces of Arachosia and Gandhāra seem to have played a pivotal role that is in need of some elaboration.

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[79] See above n. 42.

[80] Yt 13. 121 *Mazdaiiasna*, see HOFFMANN and NARTEN 1989: 86, cf. MAYRHOFER, *EWAi*a II 378).

[81] Also visible in the name of Darius father, *Vištāspa* (from Gāthic *Vīštāspa*).

[82] If an Avesta text in Aramaic script, in an extended Aramaic, or even in O. Persian script ever existed, it has been lost to us. However, if so, it may very well have had the feature of word division and –in most cases- Sandhi dissolution.

[83] Differently than BRONKHORST states (1982 reprinted in his book 2007).

[84] In this light, one may also turn the Gandhāra thesis around and assume that the Persian move to import the "correct" Avesta from Arachosia (by a *mazdayašna*) was neatly mirrored, in neighboring Gandhāra, with the import of the newly developed RV *pada* text of Śākalya from Videha.

§ 5 The Gandhāra thesis (jointly, with Steve FARMER)

My friend Steve FARMER and I have corresponded and talked about this, our "Gandhāra thesis" for about a decade now, and have mutually influenced each other's views to such an extent that it is difficult to separate our individual input now. This section, therefore, can be regarded as joint work, however, a work that is still in (slow) progress. We see Gandhāra as a critical "syncretic node" – which in the early Persian era triggered massive changes in Vedic traditions and Indian linguistic thinking. Importantly, this node can also be used as a novel dating tool to divide early from later Vedic sources.

In brief, our thesis entails that the canonization of the Vedas (e.g., involving the first formation of *pada* texts and the underlying grammatical analysis), abstract developments in Vedic thought seen in late layers of the Brāhmaṇas, and critical developments in Pāṇini-style linguistics can all be pictured as *secondary effects* of the initial introduction of literacy into India via Gandhāra during the early Persian era.

One of the critical sides of the thesis is that it gives us the first solid chronological peg on which to date a lot of the well stratified Vedic sources, since the expectation on the model is that shifts to more abstract concepts and precise discussion of linguistic issues (seen esp. in formal phonetic discussions) that appeared in late Brāhmaṇa and Āraṇyaka texts, and also *pada* versions of Vedic texts, are assumed to belong to the middle and late Persian era. There are other parts of the thesis, but the indirect influences of the Persians on "high" Vedic traditions in Gandhāra are critical to all of them.

Part of the thesis is based on what we know of Persian policies in this period towards other cultures in the Middle East and Central Asia, and conflicts in Avestan/Vedic traditions in the borderlands.

It is our current working thesis that writing had at least an indirect impact on Vedic traditions in the century or so following the Persian conquests in Gandhāra in the last half of the sixth century BCE, reflecting the introduction in the region of written Aramaic by Persian officials, as is indeed attested for neighboring Bactria.[85]

Significantly, Gandhāra was a region of strong Vedic tradition – notably of the Ṛgveda and the Black Yajurveda[86] – the area in

[85] See forthcoming edition by Shaul SHAKED; presently see SHAKED 2004; and note Darius order to send his Behistun edict to all provinces, on parchment and clay.

[86] See THIEME 1935; note that Pāṇini 7.4.38 has a direct quote from (the

which Pāṇinian grammar began to evolve, from earlier little attested origins, sometime in the later Persian era, and where the interpreter and etymologist Yāska probably lived.[87] Northwestern and western Indo-Aryan dialects[88] also figured prominently in the texts of the canonized Vedas that have been orally redacted and "fixed" in pronunciation around this time,[89] though at the extreme opposite (northeastern) side of the Indian subcontinent.

In a future article we plan to discuss in detail evidence that the evolution of the *extreme* Indian mnemonics used to canonize the Vedas developed in the northwest as a "counter literacy" of sorts, grounded in older and less extreme mnemonic techniques, but then (by the 5th cent. BCE) introduced by Brahmins to protect their ritual traditions from the threats of literacy emanating from the Persian conquests. As mentioned earlier, evidence exists that this development was concomitant or followed by migrations of Vedic scholars from the eastern Panjab and the Kuru-Pañcāla areas to the newly forming Indian kingdoms in the northeast (Bihar), where the Vedas found their final canonized form, for example by Śākalya.[90]

If the evidence so far collected on this thesis can be confirmed, puzzling near *simultaneities in the canonization* of traditions stretching from the Middle East through India from the sixth through fourth centuries BCE[91] may have a remarkably simple explanation – linked directly or indirectly to literate forces spread by the vast Persian empire with their use of light-weight writing materials.

Against this context, a few additional points need to be discussed: The Daiva inscription of Xerxes in a Gandhāra context, possible writing of Gandhāra (and other Indian) texts, the Brahmanical reactions against writing, and the role of Pāṇini.

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originally East Panjab text) KS: *devasumnayor yajuṣi Kāṭhake*. (Haradatta Miśra adds in his Padamañjari on Pāṇ. 7.4.38 that there is a Kaṭhaśākhā of the RV).

[87] The Yāska were called 'hill dwellers' (*gairikṣit*a) several centuries earlier, in KS 10.12. For Yāska's relation to Pāṇini see CARDONA 1976 : 270-273.

[88] Such as the late Kaṭha Brāhmaṇa (and the Prācya Kaṭha, attested later on) and the introduction of the western AB (1-5); the originally western PB with eastern *bhāṣika* accents; the extraction of mantras from ŚB to form the VS, the latter, however, not with *bhāṣika* accents but with western, 3-tone accentuation.

[89] Based on the import by Panjab and Kuru-Pañcāla Brahmins of their texts and pronunciation, including the 'northern' and western pitch accent.

[90] For a detailed treatment of the complex issues involved in the formation of Vedic traditions, see WITZEL 1997: 257-345.

[91] And eventually involving also China.



The Daiva inscription of Xerxes

While Darius (521-486) praised his god A[h]uramazdā in most of his inscriptions, and merely mentioned how he put down uprisings by various local leaders, including the Magu Gaumāta and the usurper Vahyazdāta (DB III 21-28), his son Xerxes (486-465) took more stringent measures against non-Zoroastrians.

The Persians probably have directly involved themselves in religious conflicts along the Indo-Iranian borders (in Arachosia and Gandhāra), as is seen in edicts for other parts of the Empire (such as Ezra's report). Here belong the following facts. Darius stresses the close personal relationship with his god A[h]uramazdā ("the greatest of the gods" DSf 8-9),[92] and that he rebuild the sanctuaries (*āyadana*) that his rival, the usurper Gaumāta, a Magu, had destroyed (DB I 63-64).[93] There are indications, first pointed out by K. HOFFMANN (1979), that Darius had Zoroastrian traditions imported into Persepolis from Arachosia for political reasons, against Median Magu opposition.

There also is the contemporaneous (continuing) Vedic rejection of the Asuras and the continued worship of the Devas. As is well known, later Vedic *asura* 'demon' linguistically corresponds to Old Persian/Avestan *ahura* 'lord', as in the name of A[h]uramazdā, while Vedic *deva* 'god' corresponds to Old Persian *daiva*/Avestan *daēuua* 'demon' – some of whom are mentioned by name and turn out to be prominent Vedic deities such as Indra.[94] Also, there are suggestions in later Vedic and Avestan texts of Vedic/Zoroastrian conflict along the Indo-Iranian borderlands. The Indian texts denounce the Iranian border people, the Kamboja, and the Avesta texts denounce the Indians of the Greater Panjab as Daiva (*daēuua*) worshipping and their land of the "Seven Rivers" as too hot (see below, n. 154).

Finally, there is the strident tone of Xerxes' Daiva inscription (XPh 35 sqq[95]) that exceeds the mere mentioning by his father Darius

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[92] Next to: "and the other gods (*baga-*)" DB IV 61, a Median expression; cf. KELLENS 1998: 514.

[93] He also mentions that the Elamians who rose up against him did not worship A[h]uramazdā (DB V 14-17).

[94] Demonized by the Zoroastrians in Vīdēvdād 19.43, mentioning the *daeuua*s Indara, Sauruua, Nånhaiθiia = Vedic Indra, Śarva (Rudra), Nāsatya (an Aśvin).

[95] For the Daiva inscription, see also: http://www.livius.org/aa-ac/achaemenians/XPh.html; and the word-by-word analysis at: http://www.utexas.edu/cola/depts/lrc/eieol/aveol-10-R.html; BRIANT 2002 (1996), *passim*, for some recent interpretations of the Daiva inscription.

of rebuilding destroyed sanctuaries (*āyadana*). The Elamite text (III 76-78) of Darius' Behistun inscription (DB IV 61), A[h]uramazdā is labeled ^{d}*nap* ^{m}*hariyanam* "the god of the Aryans", and Darius merely says that the Elamites did not worship A[h]uramazdā (DB V 14-17). In contrast, Xerxes (485-465 BCE, XPh 29-41) is exceedingly fierce against areas that were Daiva worshipping.

> When I became king, there is among those provinces inscribed above [Media … Kush, (including Gandāra)] (one which) was in commotion. Then Ahuramazdā brought me aid; by the will of Ahuramazdā I defeated that province and put it in its place. And among those provinces there was a (one) where previously Daivas were worshipped. Afterwards, by the will of Ahuramazdā I destroyed that *daivadāna*[96] and made a proclamation, 'the Daivas are not to be worshipped.' Where previously Daivas were worshipped, there I worshipped Ahuramazdā with *arta* and *brazmaniya*.[97]

Whatever the Persians would have found in Gandhāra, it was not the "Mazdā-worshipping Zoroastrian anti-daēuuic Ahura-teaching religion," as the Avesta has it, but the hated Daiva-worshippers themselves. The province where this took place is not specified by Xerxes, however, *daiva-dāna* as the "place, palace of the Daiva" does not easily refer to Indian "*deva*" worshippers as they did not yet have temples of their deities: there was no **devadāna* in Vedic and early Hindu religion, until much later.[98] Other areas in the Zoroastrian/Vedic east of the empire do not exactly fit Xerxes' description either: Vīdēvdād 2.12-14, 16-17 has Arachosia (Hara vaitī) as burying the dead and Caxra as cremating the dead, this being perhaps the best candidates[99]

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[96] Do we have to read: **daivāyadana?* 'a [place of] offering to the Daivas' as is seen in the parallel, Darius' *āyadana* (from O. Iran. *ā-yaz* 'to offer'); in this way, one would avoid comparison with *-dāna* in *apa-dāna* 'palace' (*dāna* seems to be a kind of building), and open the possibility that **daivayadāna* would merely refer to any *temporary* place, not a building where Vedic *deva*s were worshipped, and thus, also in Gandhāra along Vedic fashion, in Śrauta rituals.

[97] *artā-cā brazmaniya.* The word *brazmanya* (*sic*, according to MAYRHOFER, due to Elamite *pir-ra-iz-man-nu-ya*) is problematic, see discussion and literature MAYRHOFER, *EWAia* II 237, who takes it as a derivative from **brazman* = Vedic *bráhman,* not as a grass bundle (Ved. *barhiṣ*).

[98] Temple building took off in earnest only under the Gupta dynasty, 320 CE sqq. However one may also think of tree worship, as found in the Buddhist sources in Pali.

[99] 12. Hara vaitī: burying the dead: *aγa. anāpərəθa. šiiaoθna. yā. nasuspaiia*;



as a "Daivic" burial mound or stūpa[100] would not be in accordance with strict Zoroastrian customs.[101] The location of the province mentioned by Xerxes nevertheless remains a matter of speculation.

At any rate, it seems that the Persian kings furthered their own brand of Zoroastrian religion[102] – just as Asoka would do later with his version of Buddhism – but fought against "heretical" aberrations of Zoroastrianism or older Iranian/Indian *daiva/deva* worship in parts of their empire.

All of this is important in the context of canon formation and writing down the canon(s) of the peoples of their realm. Whether the Daiva inscription of Xerxes may refer to Gandhāra or not the feature of script will become important when weighing the question whether the Persians also fomented writing down of the "Indian" canon in their province of Gandhāra (and presumably a little later, also of Sindh).

§ 6 Gandhāra and canon formation

Gandhāra writing?

In the Gandhāra area, the Persians used, as mentioned earlier, the western Semitic language, Aramaic, and its strictly alphabetic script, for administrative purposes. It is easily argued that the direct descendant of this system of writing, Kharoṣṭhī script, was locally developed as to allow writing down messages and the like in the local language, i.e. in a conservative northwestern Indo-Aryan language, pre-Gāndhārī. It is also observable that the developer(s) of the script paid close attention to the Indian sounds not found in Aramaic, such as the aspirates and retroflexes.[103] However, while they added vowel marks

13. Haētumant: having sorcerers, great sorcerers: *aγa. yātauua*. 14:… *yātumәṇtәm… yātumastәma*. 14 Caxra: as 'cooking' of parts of dead bodies: *aγa. anāpәrәϑa. šiiaoϑna.yā. nasuspaciia*. 17. Varәna: as having non-Aryan lords: *anairiiāca. daiiϳhuš. aiβištāra*.

[100] As attested in ŚB for the Śākya-influenced eastern Vedic territories (see now WITZEL 2009: 287-310; the Xerxes inscription, in mid-5th cent. BCE, is too early to apply to Buddhist *stūpa*s, even if one would use the traditional date of the Buddha (563-483 BCE).

[101] On the other hand burying the Achaemenid kings in graves cut from rock is not, either.

[102] Note that Darius mentions A[h]uramazdā as the "greatest god" next to "the other gods", but that his successors also invoke Miϑra and Anāhitā.

[103] The Indo-Aramaic (or Irano-Aramaic) sections of Asoka's Aramaic inscriptions (c. 250 BCE) suggest that, long before Asoka, one had found ways to

to the consonant signs, they did *not* yet mark the crucial long vowels of Middle Indo-Aryan. While the new script may have been useful for business and letter writing, it will have been one of strictly local use only. In contrast, the imperial administration (and some businessmen) used the international Koine, Aramaic.[104]

Writing is referred to in late/post-Vedic grammatical texts ascribed to Pāṇini, Kātyāyana, and Patañjali (c. 350-150 BCE) but Pāṇini definitely still produced an oral text (see below).[105] Most likely, writing was not considered appropriate for intellectual undertakings of his kind.[106] However, *indirect* influence of writing on linguistic and phonological developments in northwestern India after c. 500 BCE looms large: here, Aramaic was used, the earliest truly Indian script, Kharoṣṭhī, was invented, and the most sophisticated Indian linguistic tradition (Pāṇini) evolved.

Whether there ever was a body of writing in pre-Gandhārī (or other Indian languages), will remain uncertain, unless some lucky archaeological finds will be made. So far, no *written* remnants of the Persian occupation have been found.

Writing of other Indian texts ?

Around 519 BCE, the first time Gandhāra is mentioned in a Persian inscription (DB), the religion of this area was Late Vedic (as still seen in Pāṇini, and retained, in a pre-Vedic form, with the Kalasha). Later, at some undetermined time, around 450-400 BCE, the area could have witnessed the forerunners or very early forms of Buddhism, of Jainism and of other ascetic religions (as reported by Herodotus, c. 420 BCE). In any case, the initial religious texts that could have been reduced to writing by the contemporaries of Darius (~500 BCE) and Xerxes (~475 BCE) would have been Vedic texts that so far had only been transmitted orally by learning them by heart.

It is rather questionable – in fact counter-intuitive and unexpected – that the Kharoṣṭhī script was originally invented to encode Vedic materials: they require an even more advanced phonetic medium than

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write local languages in a heterogeneous form of Aramaic. These transitional Aramaic texts can provide hints how early Indic writing evolved.

[104] As mentioned, evidence from Bactria, in: SHAKED 2004.

[105] SALOMON 1995: 271-279 suggests while works like 'Pāṇini's' were oral, it does not indicate that he was 'illiterate'.

[106] Cf. UTZ 1991 on the complex interaction so for oral and written traditions in Central Asian Iranian cultures.

available in Kharoṣṭhī, where one still cannot distinguish between the important difference of *a: ā* , such as *tata* 'father' and *tāta* 'son'. Further, Kharoṣṭhī (and even the later script, Brahmī[107] of Asoka's time), lack the typical Sanskrit vowel ṛ (and ḷ) and the signs for l̥, ṃ, ḥ (RV 1.1.1 *agnim īl̥e*...), and many other details such as the important Vedic tonal (pitch) accent.

If the Persians would have ordered someone to get the RV (and other important Vedic texts, such as the 'law' of the Dharmaśāstras) written down, certainly the Aramaic and even the Kharoṣṭhī script were not suitable. However, all of this may just be an artifact of historically available materials: we only have the Persian inscriptions farther west, and then only much later written texts in Gandhāra, around the beginning of our era, and they are not in Sanskrit but in Middle Indic languages that did not need the vowels *ṛ, ḷ,* etc. Our first Sanskrit inscriptions come from Ayodhya, Mathura, and the Deccan, starting just before beginning of our era, for example under the Saka king Śoḍāśa at Mathura.[108]

However, the case of the earliest Tamil inscription around c. 200 BCE, published by Iravatham MAHADEVAN, shows that people could easily add a few diacritics to existing characters as to represent sounds not found in the original alphabet. All of which certainly does not prove, but also does not entirely disallow, that someone did in fact use Aramaic or Kharoṣṭhī for writing down Vedic texts or Pāṇinean grammar – if so, has not been preserved. Such writings could only give functioned as a shortcut, as a memory aide (like the recent use of Urdu script in Vedic handbooks in Kashmir). Vedic ritual makes use of some similar devices.[109]

If the RV – as the most celebrated Vedic text – had been targeted to be written: which RV (and other Vedic text) would have been used? BRONKHORST[110] has argued , several decades ago, that one of the first written texts in India may have been the *pada* text of the RV of Śākalya – and that in Eastern India, far away from Aramaic (and later on, Kharoṣṭhī) using areas! However, the RV *pada* text was rather created by using speech: by longer (and brief) pauses,[111] plus some

[107] Cf. SCHARFE 2009: 44; also about lack of accent marks.

[108] See SALOMON 1998: 86.

[109] There still exist such aids in Sāmavedic ritual, the use and arrangement of small sticks to keep track of recitations, as see at the 1975 and 2011 Atirātra Agnicayana at Panjal, Kerala, 1975 and 2011.

[110] BRONKHORST 1982, reprinted in his book 2007.

[111] See now the detailed discussion of the *avagraha* pause (of one or two *mātra*s) in the Prātiśākhyas (SCHARFE 2009:75). – I have the copy of a short Kashmiri RV

other, more complex usages for long compound words, where mere pauses would not suffice (such as the use, or lack of it, of retroflexes in analysis).[112] All of which points to speech, not writing.

Thus, *direct* influence of writing practices (oral or written word dividers) in the distant Persian heartland on Śākalya's procedure of analyzing and separating words in his version of the RV is unlikely. At best, the Arachosian school text of the Avesta, if indeed already divided by oral pauses like the RV *pada* text, could have served as a model, if this idea had been transmitted to Gandhāra. However, that has to remain entirely speculative for the moment. For, as discussed earlier, we cannot be sure about the exact form of the Arachosian Avesta text at Darius' time. We depend on the Sasanide archetype, and can only be sure about certain Persian influences on oral transmission after c. 500 BCE, seen in such items as *Cv* > *Cuu*, etc.

Remnants of written Veda texts

It can be observed that some people in the *following* centuries must have tried to write down the Vedas, as we see the reactions to this: it is explicitly forbidden in the early Dharma texts to write down the Veda (cf. Mahābhāṣya, c. 150 BCE). A parallel move was, as per tradition, the writing of Buddhist texts at c. 50 BCE in Sri Lanka, and about a century later than we have the earliest preserved Buddhist manuscripts on birch bark in Gandhāra. Necessarily, they go back to earlier copies, which in some cases is remarked by the copyists. Actually, there is some indirect proof for writing down the Vedas in the Kāṇva version of the Vājasaneyi Saṃhitā. The text reflects some strange sound changes from voiced to unvoiced consonants[113] that go against the development of Middle Indic[114] but that are attested in Paiśācī.[115] They are only explainable if someone under the Brahmanical Kāṇva dynasty of Bihar (c. 50 BCE) had attempted to write down the Kāṇva Vājasaneyi Saṃhitā

pada text that does not make use of any word dividers (which look *z*-like in Śāradā script), nor of the *daṇḍa* stroke of Nāgarī: / , nor of the Avagraha seen in the Padapāṭha, first found only in the 9th cent. (cf. SCHARFE 2009: 75).

[112] Cf. now SCHARFE 2009: 75 n. 54.

[113] See WITZEL 1989, n. 19: on the Kāṇva version of the Vājasaneyi Saṃhitā: *tanakmi* VSK *yunagmi* VSK, *tanacmi* VSM *yunajmi* VSM; cf. RENOU 1948: 38, CALAND, ed. ŚBK, p. 37.

[114] Whose effects are sometimes seen in Vedic texts (*tvaṣṭumatī* in ĀpŚS 10.23.8, etc.)

[115] See HINÜBER 1981.

in Brahmī script and that this version was erroneously re-introduced into Kāṇva school recitation. Some such cases are indeed found in later Veda tradition.[116]

All of these cases point to the same time period, of c. 50 BCE: the VSK of the Kāṇvas in the east, the predecessors of the Buddhist Gāndhārī texts in the northwest, and the Pali canon in Sri Lanka. It must be asked, again: why to forbid write down the Vedas, if nobody would do so and the Vedas are only learned and transmitted by heart? It must be stressed, however, that these developments took place several centuries after the introduction of script in Gandhāra and are not of direct relevance for the Gandhāra thesis. Nevertheless, they show a belated movement to written tradition, and the Brahmanical reactions to this in Dharma texts. One can expect the same for the period under review here, the early and middle Persian period.

It is clear from Pāṇini (and later, from Patañjali as well) that great stress is paid to *correct* pronunciation, including Saṃhitā style Sandhi.[117] This is exactly the opposite of what would expect with the introduction of a rough, phonematic script (Aramaic) as opposed to a strictly phonetic script (such as for Avestan). The Persian pressure to write down the local religious texts would have resulted in many problems because absolutely correct pronunciation, including pitch accents, and some Sandhis could not be represented in writing.

The question therefore rises again whether avoidance of writing and stress on strict oral transmission is not a Brahmanical reaction to Persian pressure. Local Brahmins would have argued: "we know of script, it may be useful for administration and business letters, but – other than desired by the Persian administration – it is not sufficient for the representation our sacred texts, and therefore not to be allowed. We stress correct recitation instead." At any rate, reaction to foreign, Persian canonization pressure on Vedic Brahmins in Gandhāra and the neighboring Panjab is expected to have taken place.

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[116] Such as the derivation of the Paippalāda AV in Kashmir/Orissa from a written archetype of c. 800-1000 CE (see WITZEL 1985: 256-271); or Gaṇeś din Bhaṭṭ's misreading of the Nandināgarī ms. of "Sāyaṇa's" commentary of AVŚ, which he introduced into his own ms. and which he taught to his students in the early 19th century, see Shankar Pândurang PANDIT 1895-98 (introduction); further the case of the re-introduction of the Paippalāda Saṃhitā into Kashmir around 1400 CE, with deteriorated (Kashmiri based) pronunciation (WITZEL 1985).

[117] With some deviating rules (3.3.18-20) for Abhinihita Sandhi quoting the Easterner Śākalya, Gārgya as well as Śākaṭāyana.

In this light, one may question, again,[118] whether the predecessors of Pāṇini, such as Śākalya, were already following this train of thought. After all, the Śakalas came from the Persian occupied Panjab and therefore(?) moved east to Bihar, perhaps with some sections of their respective tribes,[119] at the time of incipient state formation (Kosala/ Videha kingdoms. Or were they merely attracted by favorable local conditions in the East, an area of intense Sanskritization?[120] In the end, this movement produced canonization in the east, which then was reflected back to the Northwest: indeed, Pāṇini knew of the Eastern (*prācya*) grammarians,[121] notably of Śākalya and his RV Padapāṭha.

Pāṇini

As mentioned, during the late Brāhmaṇa period the best speech was found in the Northwest (*udīc(y)a*), and this is the area where one would send one's sons to learn.[122] The lasting effects of this are clearly seen in Pāṇini, whose educated Sanskrit speech (*bhāṣā*) still was very conservative: it still had the Vedic pitch accents, and forms such as the subjunctive. He also was well versed in Vedic tradition, even quoting rare forms (5 periphrastic aorists, out of which only 3 are actually attested).

As noted earlier, his style is oral, his rules refer to oral speech and to oral texts, but never to problems of writing or writing correctly, to pens, lines, paragraphs, etc., though he knows the words *lipi/libi* 'script' and *grantha* 'book'.[123] Clear indications of his oral procedure include the following.

[118] See above, n. 25 sqq.

[119] The 'Rajasthāni' Malla, the 'Panjabi' Vṛji (Pali *Vajji*), the Śākya of unknown ultimately Iranian geographic origin, and perhaps also the Kṣatriya clans of the Ikṣvāku and Videgha. Note also the Eastern Kaṭha. Did all or part of this take place only at time of Xerxes' Daiva persecution?

[120] WITZEL 1989, and 1997, where the point of exact dating had been left open, c. 500 BCE, and the reason was seen in the decline of the Kuru realm, due to the Salva invasion (attested in JB and ŚŚS).

[121] The *Prasii* of the Romans. However, he does not directly quote their Veda texts (with the single exception of the Padapāṭha), not even the central area's Taittirīya prose texts.

[122] See above: as the much later Buddhist Jātakas hold that there was a "university" at Taxila.

[123] Note that there are two eastern Iranian words for "script", derived from O. Persia*n dipi* (< Elam. *tippi*); the word "book" *grantha*, is derived from "to bind, tie a knot", that is of the string threaded through the holes of the palm leaf pages (or of stitching birch bark leaves together); this is a point usually not even stressed, as it is too "normal" for our own current, medieval-like ideas of India thinking.

(1) the use of tonal (pitch) accents in his teaching, such as the use of svarita to indicate a new 'heading'.[124]

(2) The *a a* [ə a] rule at the end of his grammar, indicating that the *a*s in all of his preceding rules are not open [ʌ] as in long *ā* [ʌ:] but closed [ə]:[125] "the *a* I taught you is = schwa [ə]". This rule was only possible in recitation, not in the then existing scripts that neither had signs for *ə* nor for long *ā* but just the general vowel *a*.[126] Both *a* and *ā* frequently occur in ablaut relationship in the formation of nouns and verbs. Thus, it was much easier to treat both just as he could do for *i/ī* or *u/ū*, though *a/ā* differ in not just in length but also in quality (in the actual production involving the tongue and opening of the mouth). This is obvious from his rule about short, long and Pluti *u*: the *u-ū -ū3* rule (1.2.*27 ūkālo'jjhrasvadīrghaplutaḥ*).[127]

(3) If he had indeed used writing he could have avoided to give roots such as *pad, vad,* etc. in guṇa form and not, as usual, in zero grade as with *budh, bhū* etc. Using script it would not have been a problem to write roots such as *pd, vd*, or even *s* (for *as*).[128]

In addition, as mentioned earlier, while composing his complex grammar without the use of script, he could have used the 'tape recording' memory of his students, a sand box, arrangements of stones, shells or twigs (as used in SV singing) to indicate the many nested, recurrent frames[129] of his grammar.

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[124] See now SCHARFE 2009: 30, 32.

[125] Cf. the discussion in Mahābhāṣya I 16, 8 sqq.

[126] Incidentally, there is a slight possibility that Pāṇini may have got his idea of lumping *a* and schwa (*ə*) together, from the Kharoṣṭhī script, where *a* and *ā* are not distinguished. (He may seen and learned from the local administrator). Otherwise, this idea could just as well have originated from grammatical analysis, from the interchanges between *a/ā* in word formation.

[127] Thus my teacher Paul THIEME in his classes 1966/67, when he attributed this to an imitation of the cry of the rooster. See now the discussion by SCHARFE 2009: 31, 66.

[128] Note also H. SCHARFE's idea (1971: 7-9, see now SCHARFE 2009: 71) that Pāṇini had to insert a schwa-like sound (*ə*), later written as *i, u,* or *a,* in some terms to ease pronunciation of his rules. This, too, is important for an originally recited text, not a written one.

[129] The idea of nested frames is preceded by the same, very structure of Vedic ritual (WITZEL 1987b: 380-414; MINKOWSKI 1989: 401-20). Nesting is also clearly seen in the term *avāntara-dīkṣā* 'intermediate consecration', literally "down-inside consecration", which is inserted, as the intermediate consecration, into the general *dīkṣā* of the Soma ritual.

It also is important to note the many steps required before one could formulate Pāṇini's grammar:

> recited Saṃhitā text[130] → word analysis (Padapāṭha)[131] → analysis of the grammatical form of individual, separate words[132] → collection and formation of rules (composed in one's mind/or taken from daily speech) → formalizing these rules by using metalanguage terms (some preceding Pāṇini's, such as *vibhakti* 'case suffix'[133], *ardha-/sarva-dhātuka, nipāta,* names of compounds such as *tatpuruṣa, bahuvrīhi*, and the non-Pāṇinean use of *auṅ* and *āṅ* 7.1.18, 7.3.102) → ordering all blocks of rules by the nesting device of "boxes inside boxes", with two types of dependency (forward: *anuvṛtti*, more rarely backward) while making use of another feature of Pāṇini's metalanguage, his specialized, unusual employment of cases (locative meaning "instead", etc.)

Pāṇini, thus, is fairly late in this line of development. We know that he had about a dozen predecessors and contemporaries.[134] Pre-Pāṇinean grammarians have to be assumed for Gandhāra, in part due to commercial and religious interaction with the East (Śākalya.) In this scenario, many aspects of his grammar were developed over the c. 200 years from Śākalya to Pāṇini's immediate predecessors[135] – obviously all without the use of script.[136]

Finally, the very idea of *oral* Pada texts (that he knew from Śākalya) was a powerful model of "counter literacy". Pāṇini's Aṣṭādhyāyī

[130] Pāṇini is much concerned with Saṃhitā type pronunciation (*saṃhitāyām,* (6.1.72, 6.3.114, 8.2.108) which can mean "in close pronunciation" (between two morphemes in a word) or "in a [Vedic] Saṃhitā" (6.3.114) as opposed to a *padapāṭha* text (for which see Patañjali, Mhb. I 347.3 sq). – Cf. SCHARFE 2009: 104 (on Yāska, etc,).

[131] See now the discussion by SCHARFE 2009: 77sqq. on the development of the Padapāṭha.

[132] See already Taittirīya Saṃhitā 6.4.7.2-4 on *vy-ā-kṛ* ~ later *vyākaraṇa* 'grammar'.

[133] Maitrāyaṇi Saṃhitā 1.7.3. – Further: cf. SCHARFE 2009: 108 sqq., on the development of grammatical analysis in the Vedas, and on Pāṇini's predecessors.

[134] Cf. now SCHARFE 2009: 53 for alleged authors of Pāṇini's Vedic rules (JOSHI *et al.*); cf. p. 65 on the assumed addition of other rules.

[135] Cf. SCHARFE 2009: 108 sqq.

[136] If Pāṇini is indeed dated to c.350 BCE, a few generations of Gandhāra grammarians could theoretically have known and used script. We have no evidence for this.



can thus be understood as the *utmost* possible countermove against *writing* down a long grammar.[137] All its 35 *pothi* folios can be learnt by heart easily by a small boy[138] who then will then never forget it. The explanation of these 35 fol. of incomprehensible "childrens' rhymes", certainly, may take many years, or a lifetime (as it does with some specialized scholars).

However, the purely oral tradition, even of Pāṇini's work, was about to change. It is clear from Patañjali's treatment of Pāṇini's technical use of spoken pitch accents (such as svarita to mark the "headline" of a new section) that he could no longer rely on a tradition of recitation of the Aṣṭādhyāyī and also not on a manuscript marked with accent marks.[139] From then on, the tradition was a written one (without accents),[140] though it has not yet been tested whether a Brahmī script manuscript was a predecessor of the late Gupta (Siddhamātṛkā) archetype manuscript of the Mahābhāṣya.[141] All of this indicates a general shift to writing for these traditional texts around 50 BCE, or maybe even at the presumed time of Patañjali's predecessor Kātyāyana (c. 250 BCE).

The aversion of Brahmins to writing

It has been pointed out earlier that Brahmins have a tradition of oral poetry, whether it involved Vedic poets, Epic bards or the authors of the neglected stanzas about kings (and ritual) in the Brāhmaṇa texts.[142]

[137] As the Greek Alexandrian grammarians would do a little later on, in the 3rd to 1st cent. BCE.

[138] As one of my Nepalese friends (MRP) has undergone at age 4.

[139] Which are not attested before the earliest surviving Veda MSS at c. 1200 CE (found in Tibet and Nepal but apparently written in northern India). – Note that even following the invention of Kharoṣṭhī and Brahmī, Indian Brahmins still did not like to write Sanskrit: the next centuries only have Prākṛt inscriptions down to the beginning of our era (at Mathurā).

[140] As THIEME stressed in his classes (1966/67), Patañjali apparently did not have access to an accented recitation or to an accented MS of the Aṣṭādhyāyī but had to deduce Pāṇini's use of accent by himself. However, as SCHARFE 2009: 32 notes, THIEME has shown that his predecessor Kātyāyana (c. 250 BCE) was also the author of the Vājaseneyi Prātiśākhya and probably had received Pāṇini's work in written form. Patañjali, however, would have received this written text without accents (SCHARFE 2009: 43). – Accentuation of some Vedic mantras has secondarily been introduced in the KIELHORN edition; note that accent marks first appear in the earliest preserved Vedic MSS, around 1200 (see below).

[141] WITZEL 1986: 249-259.

[142] Starting with the prose sections of the Black Yajurveda MS and KS; see HORSCH 1956.

However, there existed something in India that looks to many like writing before the Vedas: the famous undeciphered Indus signs (2600-1900 BCE), which my colleagues and I do not take to have been signs that encode speech.[143]

Actually, there are a number of civilizations in the same general area that do not show the use of script: the Bactria-Margiana civilization (BMAC),[144] the newly discovered Jiroft civilization in southeastern Iran,[145] the neighboring Mundigak civilization just north of it: we can speak of a no-script zone here,[146] extending from Turkmenistan in the north to the Persian Gulf in the south, and from the Caspian sea and Jiroft in the west to Delhi and Gujarat in the east. (In addition there was one locality in northern Iraq that had taken over the cuneiform script but then rejected it and remained scriptless.) In sum, we must accept that there were (and are) some cultures that did not see the necessity to write down things. (There were, for example, the Incas and Central Mexican people, next to the literate Mayas.)

Against this background it is not surprising that the prehistoric Indo-Iranian bards of central Asia continued their strong oral practices in their new homelands of eastern Iran (Zarathustra) and the Greater Panjab (Vedic Ṛṣis).[147] This continued down to the introduction of

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[143] Why then the rejection of writing and of long texts in the Indus Civilization? Apart from asserting one's difference to the script using civilizations of Mesopotamia, did one simply pay more attention to oral tradition and stories (as did the later Vedic Ṛṣis and epic bards)? Note that the Indus tablets often have depictions of small mythological scenes on one side, which is more effective than an inscription supposedly representing a spoken text that could be read only by a few. – Why then did the tradition of Indus signs disappear? "Studies of cultural breakdown of complex cultural systems show that predictable changes take place in material culture when social and economic systems disintegrate… from ... the Near East to the decline of Roman authority." WELLS 1999: 79 sq.

[144] This culture, too, does not employ script, but many seals with mythological motifs. (The one seal with writing that to the uninitiated observer immediately looks Chinese is not of the 3rd millennium BCE but has a parallel in early 1st millennium CE in Xinjiang. Apparently, it has fallen down, just like the Sri Lankan potsherd fragments in Brahmī, through rat holes to much earlier archaeological layers).

[145] Though its excavator, Youssef MADJIDZADEH, claims script; see Harvard Oriental Series, Opera Minora 7, 2011 (forthc.).

[146] Obviously both civilizations did not *like* writing. (Which it is not necessary to run a realm, as is clear in the Inca realm or in the practice of Charlemagne or UNESCO's recent director M'Bow indicate).

[147] We may even ask whether some of the 'adopted', non-Indo-Aryan Ṛgvedic

"Aryan" writing by Darius (519 BCE) and of Aramaic in the Persis, around the same time (and well beyond it in and the rest of Iran and India).

However, as indicated earlier, the introduction of script had no *direct* effect on Pāṇini's activity as a composer, or perhaps rather, the redactor (a Vyāsa!) of early grammatical traditions in Gandhāra proper and those far away, in the east (Śākalya, *prācya* grammarians), for his proper *āryа* speech in the "North".[148] It still is debated whether the early commentator on the Ṛgveda, Yāska, preceded Pāṇini or not. His homeland not very clear: one Yajurveda Saṃhitā (KS 10.12) quotes "mountain dwelling *Yāska*s", obviously his ancestor clan living in the "hills," the lower Himalayas. Nevertheless, we can observe mutual influence between Gandhāra, Yāska and the East that will also have included an exchange of ideas about Veda interpretation, grammatical analysis and canon formation (e.g., Padapāṭha).

§ 7 Mutual Interaction

In sum, I think we can state the following sequence of events.

Before c. 500 BCE:

The early Aitareya Brāhmaṇa (AB 1-5) of the eastern Panjab knows of the Śakala priestly group (AB 3, cf. the later town of Sangala, Greek Saggala). The late Vedic Easterner Śākalya (ŚB, RV Padapāṭha) is their descendant, living at the eastern fringe of the Vedic area, in Bihar.

By contrast comparatively little is known about neighboring Gandhāra, except that the Gandhāri, as northerners, had good speech (Kauṣītaki Brāhmaṇa), so that one would send one's sons there for study, which is also reflected in BĀU 3.3, 3.7. – Gandhāra had late Vedic commercial connections with the east (also reflected by the tale of blindfolding someone and then sending him home from Gandhāra to the Upaniṣadic East).

530/519 BCE:

Persian conquest of Gandhāra under Cyrus, with a well-established

"Brahmins" (Kavaṣa, Agastya, Kāṇva etc.) did not reinforce this anti-writing tradition of the Indus area.

[148] However Pāṇini's knowledge of Śākalya and his Padapāṭha does not extend to the Eastern Veda texts; even TS prose is neither liked nor quoted; importantly he knows the northwestern Vedic texts (KS, see already THIEME 1935); Pāṇini quotes from the Vedic texts as we have them today.

satrapy under Darius (519 CE). Aramaic script was introduced; there was use of word dividers in O.Persian inscriptions in the Persis; canon formation (Avesta from neighboring Arachosia) was ordained by Darius.

c. 500/450 BCE:

Early state formation in the East (Kosala, Videha) along with incipient urbanization and 'Sanskritization' of Kosala, and especially of Videha (by invitation of Panjab and Kuru-Pañcāla Brahmins like Yājnavalkya) and establishment by them of grand royal rituals[149] for the first great 'king of kings' in the east (Kosala, later Magadha), as seen in certain rituals of the late, Bihar-based Aitareya Brahmana (AB 6-8). Probably some imitation, due to information of traders, of the Persians was involved as well (state organization, taxes, etc.)[150]

Note also the reverse direction of movements: Namin Sāpya (PB 25.10.17) makes a 'pilgrimage' back to the Sarasvatī/Kurukṣetra area, an area well known to Pāṇini and very close to the original home of the Śakala clan. The same is true for Veda students from the East (BĀU 3.3, 3.7) who study in Madra land in northern Panjab, just south of the Kashmir Valley, similar to what KB also reports.

These late Vedic developments proceeded hand in hand with that of canon formation and of incipient codification of ritual. Concurrently, there was final redaction of texts by western Brahmins: Ṛgveda Padapāṭha by Śākalya; and introduction of western style Veda recitation (based on extraction of Vājasaneyi Saṃhitā mantras from the eastern, *bhāṣika*-style Śatapatha Brāhmaṇa). We know about some eastern grammarians, such as Śākalya, Gālava, etc.[151]

*** 530-326 BCE:**

At the other end of India, in Gandhāra, we have much Persian influence, including the use of script, as clearly seen in Pāṇini's work itself. It is rather improbable that Pāṇini actually used (Aramaic or Kharoṣṭhī)[152] script while formulating his grammar, even as a simple memory aid. Rather, we can imagine mnemotechnical devices for structuring his grammar, such as the Sāmavedic use of twigs, or of

[149] Such as Indrābhiṣeka, Mahābhiṣeka.

[150] WITZEL 2003/2010: 60, 72 sqq.

[151] Though, except for Śākalya, we do not have their texts but only what Pāṇini says about them.

[152] See now SCHARFE 2009: 29, 66-69.

pebbles, shells,[153] or simple lines in the sand that reflected his recurrent nesting device of "boxes inside boxes".[154] In addition, he could have used his students as living 'tape recorders', as was done since RV times. Though a northwestern, Gandhāra person, he was well aware of the early *eastern* grammarians, especially Śākalya, though he does not quote their actual Veda texts. All of this is an indication of the exchange of ideas, rituals, students, as well as of trade and other links across the long distance of some 1500 km.

486-65 BCE:

Under Xerxes, Persian pressure on the eastern provinces increased: his Daiva inscription clearly indicates persecution of Daiva/Deva worshippers, and which may have increased emigration of Panjab Brahmins to the emerging eastern kingdoms. (By c. 420 BCE, Herodotus describes northwest Indian ascetics).

c. 350 BCE:

By Pāṇini's time, we find both grammar and canonical texts in Gandhāra, plus initial use of script (Aramaic, Kharoṣṭhī), though only in secular contexts.

* * *

By c. 500 BCE, preceding Pāṇini, there is the striking symmetry of a religious, doctrinal and political development in the two neighboring provinces of the early Persian empire, Arachosia and Gandhāra.

* Arachosian texts (and their specialists) spread westward, intended for the canonization of the Avesta under Darius.

* Gandhāran type Vedic language, early grammar, texts (and their specialists) spread eastward, resulting in canonization for the Vedas (RV Padapāṭha by Śākalya).

Both movements exhibit an impetus of standardization. It is unlikely that the parallel developments have merely been accidental. Instead, the relationship between these two Persian provinces, linked by a direct, easily traveled road, involved not just the movement toward canonization but also other mutual interactions such as religious influences,[155] trade,

[153] Note traditional, current Kerala use of shells for computing, see YANO 2011.

[154] As earlier in the ritual, such as seen in the *avāntara-dīkṣā,* see above n. 129.

[155] For the attitude of Persians towards Gandhāris/Indians and Avestan attitudes toward the Indian note that the country of the "Seven Rivers" (V. 2.15) is described

direct human relations, and the like[156] – all working both ways.[157] One may even imagine that some Arachosian and Gandhāra priests were engaged in talks about the Persian pressure to record their texts in written form, and a few decades later, about increasing Persian pressure exerted on local beliefs, as seen in Xerxes' Daiva inscription.

Both canon formations were reactions to Persian pressure, reactions, which initially were in opposition to the use of light-weight writing materials and of a simple script to record the respective traditional texts. Both the Zoroastrian and Vedic priests aimed at retaining their monopoly of oral tradition, and they ultimately succeeded in doing so – for another thousand years – or more.[158]

Clearly, more research is needed both on the Iranian and the Indian side of the ancient Arachosia/Gandhāra border.

Table 1.

	VEDA	GRAMMAR	EAST	ARCHEOLOGY	IRAN
1000-	Kuru collection of Vedic texts oral transmission: local versions / Vedic dialects			Painted Gray Ware (PGW); up to west of Kausambi; in the East (Kosala)	Immigration of Medians, Persians

as "too hot". And, vice versa, the attitude of the Vedic people toward the East Iranian Kambojas, regarded as half-barbarians (DESHPANDE 1983); see the following note.

[156] The Indian reaction to their western, Iranian neighbors is clearly seen in the framing of the famous *śavati* discussion of Yāska and Patañjali about the Kamboja verb *śavati* 'to go' (= Late Avestan *š'auuaiti*). More details about the northwest emerge only in the Mahābhārata, such as: Mbh 8.30.11 (see above, n. 6).

[157] The Iranian reaction is visible, as just indicated, in the reaction to the typical Vedic Indian deities; Indra, Nāsatya and Śarva (Rudra) that are declared demons, and the denunciation of the Panjab as being 'too hot' a country, both found in the Vīdēvdād. On the other hand, a more benign relation is seen regarding the Indo-Iranian border land *Muža* (probably high in the Himalayas, cf. Vedic *Mūja*-vant and Tibetan *bru-zh*a 'Burusho, Hunza', where the Zoroastrian Parō.dasma, son of Dāštāγni (Yt 13.125) appears. Clearly the latter has a name reflecting the Vedic deity Agni, a name that does not occur elsewhere in the Avesta. (Note that the name Dāštāgni has not been separated by dot in the text: apparently it was not quite intelligible).

[158] The first Veda Saṃhitā MSS are from 12th cent. CE Nepal.



	VEDA	GRAMMAR	EAST	ARCHEOLOGY	IRAN
	Development of Yajurveda Saṃhitā prose and other Brāhmaṇa style texts (E. Panjab – W. of Allahabad)	Early, unsystematic Vedic notes on sounds, accents; e.g., discussion of Cuv/Cv cases in RV Brāhmaṇas			Median realm
	Sakala clan in E. Panjab (AB 3; predecessors of Śākalya, AĀ 3)				
			Immigration of Ikṣvāku, Pūru to the East		Establishment of Persian rule in Gandhāra under Cyrus (559-29)
530/ 519	Emigration of many western Vedic schools to the East: Kosala, Videha (Aitareya, Kauthuma)		(The Buddha: high chronol.) (564-484)		Persian occupation of Gandhāra; later of Sindh; Darius restoring worship of Ahuramazda where Median Magu had destroyed places of worship
					Use of Aramaic script; cities: Taxila, Puṣkalavatī (Charsadda). Others cities with Iran.
					suffixes: *-kantha-* (in Varṇu)

VEDA	GRAMMAR	EAST	ARCHEOLOGY	IRAN
				Herodotus (c. 484-420 BCE): Gandarians, Dadikans, Aparytians, Sattagydians as sixth Persian satrapy
Ait.B. 6-8 composition in the East: Royal rituals; Myths of incorporation of Munda etc. tribes tribes and Vedicization of the East		Immigration of Malla, Vajji (Vṛji), Śākya into N. Bihar (due to Persian pressure? – Or due to Xerxes (486-65): Daiva persecution?)	State formation in the East: Kosala, Videha (later: Magadha)	
Veda canonization: Baudhāyana Śrautasūtra in Kosala (earliest Sūtra, in Brāhm. style; but with clear *western* connections: Parśu (Persians?), camels, Araṭṭa (Sistan/Jiroft?) mentioned				Oral Arachosian Avesta texts, rituals introduced into Persis by Darius (521-486) Beginning of canonization of non-Iranian texts
	Early Prātiśākhyas? Detailed phonetic dicussions in Āraṇyakas, Upaniṣads			



	VEDA	GRAMMAR	EAST	ARCHEOLOGY	IRAN
	Śākalya mentioned in late part of Śatapatha Brāhmaṇa	Śākalya: Padapāṭha (Pāṇini knows Śākalya's Padapāṭha, counter-literacy?)	Trade and student exchange between East and Northwest		Persian influences in Panjab and beyond
	Para-Vedic language with 2 tonal accents spoken in the East (*bhāṣika* accents)			Pali canon: Vedic (*chandas*) language known, but not preferred by Buddha	
c. 450	No towns in Veda			Urbanization (Sāvatthi, etc.)	
	Invention of Kharoṣṭhī			Vajji confederation (includes Videha) Śākya, Malla etc.	
				Āraṇyaka: Brahmin in Magadha	
				Pali canon: Brahmin villages in Magadha, Aṅga	
				Emergence of Magadha	Continuing canonization by Xerxes (486-65), and Artaxerxes (464-435) of non-Persian canons; anti-Daiva campaign

	VEDA	GRAMMAR	EAST	ARCHEOLOGY	IRAN
			First attested roving ascetic, Yājñavalkya (BĀU) c. 420 ascetics in Northwest (Herodotus) c. 400 The Buddha (c. 460-380) in East (Bhikṣusūṭra: Pāṇini)		
c. 350?	Pāṇini's oral text, know of script, Kamboja king, bhikṣusūtra anti-script attitude: oral texts for grammar and Veda				(Oral Avesta transmission continues in the Persis)
c. 250		Kātyāyana: written text?			
c. 150		Patañjali: written texts			
c. 50		Kāṇva Saṃhitā written; pre-Gāndhārī Buddh. MSS; Pāli canon written in Sri Lanka			



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