Title: **Future as Past in Central Asian Gāndhārī. A Note on the Relationship between *Aṣṭādhyāyī* 3.2.112-114 and the Usage of the Future Tense to Denote Past Actions in Niya Prakrit**

Author: Alessandro Giudice

Affiliation: University of Cagliari, Department of Literature, Languages and Cultural Heritage.

E-mail address: alessandro.giudice@unica.it

Postal address: Via Is Mirrionis 1, 09123 Cagliari (CA), Italy.

Abstract

This paper explores the potential relationship between *Aṣṭādhyāyī* 3.2.112-114 and the usage of the future tense to denote past actions in Niya Prakrit. According to the interpretation by *vyākaraṇa* commentators, rule A 3.2.112 teaches that the *l*-substitutes of *lṚṬ* (= sigmatic future) occur after a verbal base to denote a past action excluding the present day, provided that there is a co-occurring word conveying the sense of 'recollection'; the other two rules (A 3.2.113-114) constitute the exceptions to the latter. Specifically addressing A 3.2.112, Thomas Burrow argued that, in six Niya Prakrit occurrences (CKD 182, 309, 376, 435, 621, 634), there is "exactly what is laid down in Pāṇini 3 2 112". This paper endeavours to demonstrate that such alignment is not entirely accurate, at least according to the traditional interpretation of the rules at stake.

1. Introduction: Pāṇini as a "frontier grammarian" and Niya Prakrit

This paper focuses on the (possible) relationship between Pāṇini's *Aṣṭādhyāyī* 3.2.112-114 and the usage of the future tense to denote past actions in Niya Prakrit. The Middle Indo-Aryan (MIA) language labelled as Niya Prakrit is a dialect of Central Asian Gāndhārī, which was employed for administrative purposes between the third and fourth centuries CE in the Shanshan kingdom (also known as the Kingdom of Kroraina). It was in the territories into which the Shanshan domain extended, corresponding to the site of Niya (in present-day Xinjiang), that, in the archaeological campaign of 1900-1901, Aurel Stein first discovered the vast collection of Niya documents written in Kharoṣṭhī script.[1] The latter group of texts was transcribed and edited by Boyer et al. (1920-1929), while grammar and translation were provided by Burrow (1937; 1940).

My analysis concerns a specific usage of the future tense in Niya Prakrit, which is morphologically formed by adding the present endings to the verbal base affixed by *-iśa-* (*-iṣya-*).[2] Syntactically, the future is generally used to give orders and prohibitions; moreover, it is employed in subordinate clauses with *yo* ('who', 'which'), *yadi* ('if'), *yatha* ('like', 'that'), *yahi* ('when', 'if')[3] and *yena* ('since', 'because', 'so').[4] In addition to these, Burrow (1937: § 124) reported a peculiar usage of the future tense, which he noted in six Niya Prakrit documents, i.e., CKD 182, 309, 376, 435, 621, 634 (albeit, as he stated, the latter case is slightly different from the others). According to Burrow, this usage of future as past "is interesting because it is exactly what is laid down in Pāṇini 3 2 112" (Burrow 1937: 61). This rule does not find much application in Sanskrit: this led Burrow to argue that, given that Pāṇini was a native of Śalātura (in the area of ancient Gandhāra),[5] "this was probably a piece of local syntax, which was not current in the rest of India and so does not appear in literature but turns up again in the local dialect, where the influence of grammarians is of course out of the question" (ibid.). This interesting argument of Burrow is still considered valid by the present scholarship.[6] It goes without saying that Pāṇini's object language does not certainly correspond to later MIA languages such as Gāndhārī and its dialect of Niya. The *Aṣṭādhyāyī* describes a form of Old Indo-Aryan (OIA) language "current in his time and place […] in the northwest of the Indian subcontinent" (Cardona 1997: 1), which, based on recent hypotheses about Pāṇini's chronology, would be dated to the second half of the fourth century BCE.[7] The language described by Pāṇini – also called "Pāṇinian Sanskrit" – approximates that of Middle Vedic texts,[8] in particular the *Aitareyabrāhmaṇa*, according to Liebich's hypothesis (1891: 17-37, 70-82).[9] However, subsequent scholarship has demonstrated that this conclusion is partly inadequate, as a significant amount of linguistic phenomena taught by Pāṇini's grammar is not attested in the Vedic corpus. It is likely that such phenomena "never existed in the Vedic dialects that were documented in Vedic prose texts contemporaneous with the époque of the Ancient Indian grammarians and thus, allegedly, must have served as an object language for Pāṇinian descriptivists" (Kulikov 2013: 82). For instance, one of the elements discussed by Kulikov (2013: 71ff.) in this regard is the case of the *-yá*-passives *janyate* and *tanyate* from the verbal bases *jan-* ('to be born') and *tan-* ('to stretch'), which, although taught by A 6.4.43-44 as alternative passive forms to *jáyate* and *tāyáte* (regular and attested since Early Vedic texts), do not find any attestation in the Vedic corpus but only starting from Classical Sanskrit texts. The conclusion reached by Kulikov (2013: 82-87), partly anticipated by Deshpande (1992: 119-120),

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[1] See Stein (1907).
[2] See Burrow (1937: §§ 93-116); Schoubben (2022: 7-8).
[3] See Schlosser (2022: 225-226, 258, 311).
[4] See Burrow (1937: §§ 125, 126, 127, 129, 130, 131).
[5] See Agrawala (1963: 9-11).
[6] Cf. Baums et al. (2016: 274, fn. 16).
[7] See von Hinüber (1990: 34-35); Falk (1993: 303-304; 1994: 326-327).
[8] See Scharf (1977: 88).
[9] See also Whitney (1893); Keith (1920: 42); Bronkhorst (1982: 275-277).

is that these "Pāṇinian-only" phenomena prescribed by the *Aṣṭādhyāyī* probably originated in a "semi-colloquial hybrid Sanskrit", spoken as a scholarly language (and not for every-day communication) by the Brahmanical community (comparable to Medieval Latin in Europe). In this "Pāṇinian Hybrid Sanskrit", the linguistic forms, constructions, etc., not attested in the Vedic corpus probably originated both from the influence of MIA patterns and internal processes (primarily analogical). Furthermore, Deshpande (1982; 1983; 1988) demonstrated that some of the phonological and syntactic features described in the *Aṣṭādhyāyī* allow for the characterisation of Pāṇini as a "frontier grammarian". While regulating the Pāṇinian semi-colloquial Sanskrit, the grammarian "was most certainly maximally familiar with the peculiarities of the language of the northwest" (Deshpande 1993: 76-77), which might have influenced him in describing certain phenomena. Based on these premises, Burrow's hypothesis would turn out to be a striking example of the influence of Pāṇini's *bhāṣā* in the language codified in the *Aṣṭadhyāyī*.

Diverging from the prevailing scholarly perspective, I argue that the Niya Prakrit usage of the future tense to denote past actions does not precisely adhere to what Pāṇini taught in A 3.2.112 (and related rules, i.e., A 3.2.113-114), or, at least, it does not *strictu sensu* when following the interpretation of this rule provided by *vyākaraṇa* commentators. This paper aims to investigate to what extent the three rules of Pāṇini devoted to the non-future usage of the future affix *lṚṬ* (A 3.2.112-114) may overlap with the usage of future as past in Niya Prakrit. In the first part, I discuss the traditional interpretation of rules A 3.2.112-114 (which, to my knowledge, have not been studied thoroughly) and their scarce application in Sanskrit literature (see § 2). In the second part, I list and comment on the six Niya Prakrit occurrences of the future tense denoting past actions identified by Burrow (1937: § 124), explaining why A 3.2.112 cannot overlap with them according to its traditional interpretation of *vyākaraṇa* authors (see § 3). Finally, I advance an alternative reading of A 3.2.112 that may align with the observed Niya Prakrit usage under consideration (see § 4).

2. The traditional interpretation of A 3.2.112-114

In section A 3.2.84 – 3.2.122, Pāṇini includes the *l*-substitutes occurring to denote actions in the past tense since they depend on the *adhikāra bhūte* (A 3.2.84).[10] Within this section, Pāṇini teaches three rules (A 3.2.112-114) constituting an exception to the affix *lAṄ* (= generally referred to as "imperfect"), taught in the previous rule (A 3.2.111 = [0]). The latter teaches one to form, by means of the affix *lAṄ*, "imperfect" verbal forms denoting a past action that excludes the present day:

> [0] A 3.2.111: *anadyatane laṅ* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84]
>
> [The *l*-substitutes of] *lAṄ* (= imperfect) occur [after a verbal base to denote a past action] excluding the present day.

It should be remarked that the verbal forms derived by means of *lAṄ* are labelled as "imperfect" just in view of the same morphology as the Greek imperfect: Skt. *a-bhar-a-n*, Gr. ἔ-φερ-ο-ν < PIE *h_1e-b^her-o-nt*.[11] As far as Pāṇini's rule is concerned, the affix *lAṄ* is just taught to denote a past action that happened at least the day before the speaker's present (*anadyatane*) and directly witnessed by the speaker (as inferred from the opposition with *lIṬ*, which is taught as *parokṣe* in a subsequent rule). In the past tense system described by Pāṇini (mostly reflecting Middle Vedic texts with the influence of analogical processes and MIA patterns; see § 1), *lAṄ* is opposed to *lUṄ* (= aorist, taught

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[10] A 3.2.84: *bhūte* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91] "[A *kṛt* affix occurs after a verbal base] to denote an action in the past."
[11] See Mawet (2012: 172).

by A 3.2.110)[12] and *lIṬ* (= perfect, taught by A 3.2.115):[13] *lUṄ* denotes a recent past action that might have happened even in the speaker's present day, while *lIṬ* denotes a past action that did not happen in the speaker's present day, provided that it is beyond his perception, i.e., it has not been directly witnessed by the speaker (as prescribed by the constraint *parokṣe*). Hence, what is called "imperfect" (*lAṄ*) does not denote *imperfective* actions: Pāṇini does not provide any information about the aspect of the denoted action (perfective/imperfective) but only about its position in the past (with respect to the *adhikāra bhūte*). In praxis, as is commonly known, Classical Sanskrit imperfect is mostly used in narrative contexts and is virtually equivalent to the perfect (and the rare instances of aorist), unlike in Vedic, where the opposition between the three past tenses is generally maintained.[14]

The three rules constituting an exception to *lAṄ* (A 3.2.112-114 = [1], [2], [3]) teach one to form, by means of the affix *lṚṬ* (= sigmatic future), future verbal forms denoting a past action that excludes the present day, provided that a condition, expressed by the locative *abhijñāvacane*, is respected. According to the traditional interpretation of *vyākaraṇa* commentators, such a locative should be read – based on the metarule A 3.1.92[15] – as implying a co-occurring word (*upapada*) conveying the sense of 'recollection' (*abhijñā = smṛti*) (see, e.g., KV *ad* 3.2.112).[16] Here is the text of the three rules at stake as traditionally interpreted:

> [1] A 3.2.112: *abhijñāvacane lṛṭ* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84 *anadyatane* 111]
>
> [The *l*-substitutes of] *lṚṬ* (= sigmatic future) occur [after a verbal base] when co-occurring with an expression conveying the meaning of 'recollection' [to denote a past action excluding the present day].
>
> [2] A 3.2.113: *na yadi* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84 *anadyatane* 111 *abhijñāvacane lṛṭ* 112]
>
> [The *l*-substitutes of *lṚṬ*] do not occur [after a verbal base when co-occurring with an expression conveying the meaning of 'recollection'] in conjunction with *yad* ('that', 'when') [to denote a past action excluding the present day].
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> [3] A 3.2.114: *vibhāṣā sākāṅkṣe* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84 *anadyatane* 111 *abhijñāvacane lṛṭ* 112 *na yadi* 113]
>
> [The *l*-substitutes of *lṚṬ*] marginally[17] [occur after a verbal base when co-occurring with an expression conveying the meaning of 'recollection', in conjunction or not with *yad*[18]

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[12] A 3.2.110: *luṅ* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84] "[The *l*-substitutes of] *lUṄ* (= aorist) occur [after a verbal base to denote a past action]."

[13] A 3.2.115: *parokṣe liṭ* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84 *anadyatane* 111] "[The *l*-substitutes of] *lIṬ* (= perfect) occur [after a verbal base to denote a past action excluding the present day] and beyond the speaker's perception."

[14] See Whitney (1892); Cardona (2002); Dahl (2010: 186-216; 263-424); Hock (2012: 93-101); Freschi and Pontillo (2013: 8, fn. 2); Lowe (2015: 33-36).

[15] A 3.1.92: *tatropapadaṃ saptamīstham* [*pratyayaḥ* 1 *paraś ca* 2 *dhātoḥ* 91] "In this section (i.e., that governed by the *adhikāra dhātoḥ*), a co-occurring word (*upapada*) occurs in the locative case."

[16] KV *ad* A 3.2.112: *abhijñā smṛtiḥ | tadvacane upapade bhūtānadyatane lṛṭ pratyayo bhavati | laṅo 'pavādaḥ* […] "*abhijñā* [means] 'recollection' (*smṛti*). When there is a co-occurring word (*upapada*) expressing it (i.e., 'recollection'), in the case of past excluding the present day, the affix *lṚṬ* occurs. This is an exception to *lAṄ* (= A 3.2.111)."

[17] Although I have introduced this interpretation of [1]-[3] as the traditional one, it is crucial to highlight that the translation of *vibhāṣā* deviates from the tradition, aligning instead with the proposition articulated by Kiparsky (1979). As demonstrated by the latter scholar, the grammatical tradition actually failed to discern that *vibhāṣā* indicated a marginal, i.e., unfavoured, option.

[18] The translation of the segment *na yadi* (descended by *anuvṛtti* from the previous *sūtra*) in A 3.2.114 as 'in conjunction or not with *yad*' is explained by Kātyāyana's Vt. 1 *ad* 3.2.114 (M II, 119 l. 13), for which see footnote 22.

('that', 'when'), to denote a past action excluding the present day], in the case of the speaker's wish to add information.

The traditional examples cited by the *Kāśikāvṛtti* are the following (see KV *ad* A 3.2.112-114):

> For [1]: **_abhijānāsi_** *devadatta kaśmīreṣu* **_vatsyāmaḥ_**
>
> **Do you remember** (mandatory *upapada* conveying the sense of 'recollection'), o Devadatta, [when] **we dwelled** (verb conjugated in the future tense to denote a past action) in Kaśmīra?
>
> For [2]: **_abhijānāsi_** *devadatta* **_yat_** *kaśmīreṣv* **_avasāma_**
>
> **Do you remember** (mandatory *upapada* conveying the sense of 'recollection'), o Devadatta, **when we dwelled** (verb regularly conjugated in the imperfect tense due to *yad*) in Kaśmīra?
>
> For [3]: (a) **_abhijānāsi_** *devadatta kaśmīreṣu* **_vatsyāmas_** *tatra odanaṃ* **_bhokṣyāmahe_**
>
> **Do you remember** (mandatory *upapada* conveying the sense of 'recollection'), o Devadatta, [when] **we dwelled** (verb conjugated in the future tense to denote a past action due to the speaker's intention to add information) in Kaśmīra [and] there **we ate** (verb conjugated in the future tense to denote a past action due to the speaker's intention to add information) boiled rice?
>
> (b) **_abhijānāsi_** *devadatta* **_yat_** *kaśmīreṣu* **_vatsyāmaḥ_** **_yat_** *tatra odanaṃ* **_bhokṣyāmahe_**
>
> **Do you remember** (mandatory *upapada* conveying the sense of 'recollection'), o Devadatta, **when we dwelled** (verb conjugated in the future tense to denote a past action due to the speaker's intention to add information notwithstanding *yad*) in Kaśmīra [and] **when** there **we ate** (verb conjugated in the future tense to denote a past action due to the speaker's intention to add information notwithstanding *yad*) boiled rice?
>
> (c) **_abhijānasi_** *devadatta* **_yat_** *kaśmīreṣv* **_avasāma_** **_yat_** *tatra odanam* **_abhuñjmahi_**
>
> **Do you remember** (mandatory *upapada* conveying the sense of 'recollection'), o Devadatta, **when we dwelled** (verb regularly conjugated in the imperfect tense) in Kaśmīra [and] **when** there **we ate** (verb regularly conjugated in the imperfect tense) boiled rice?

As far as only this small series of three rules is concerned, [1] can be considered the general rule (*utsarga*), whereas [2] and [3] can be considered the exceptions (*apavāda*) to the latter. According to [1], the affix *lṚṬ* occurs to denote a past action (in place of the regular occurrence of *lAṄ*), provided that, according to the traditional interpretation, there is an *upapada* having the meaning of 'recollection'. Based on the interpretation of *vyākaraṇa* commentators, this *upapada* should be a verb meaning 'to remember' such as *abhijñā-*, *smṛ-*, *cit-* or *budh-*, cited by the *Kāśikāvṛtti* (see KV *ad* A 3.2.112).[19] Thus, using °*vacane* is explained as licensing the synonyms of *abhijñā*.[20] According to [2], the affix *lṚṬ* does not occur when, even if there is an *upapada* conveying the sense of 'recollection', there is *yad* used as a subordinative conjunction ('that', 'when'). Thus, the presence of *yad* blocks the application of [1]: consequently, the affix *lAṄ* regularly occurs to express a past action. According to [3], the affix *lṚṬ* marginally occurs in the case of the speaker's intention to add

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[19] KV *ad* A 3.2.112: […] *vacanagrahaṇaṃ paryāyārtham, abhijānāsi, smarasi, budhyase, cetayase iti* | "The word *vacana* [is used] for [indicating] synonyms (of *abhijñā-*), i.e., *abhijānāsi* (from *abhijñā-), smarasi* (from *smṛ-*), *budhyase* (from *budh-*), *cetayase* (from the causative of *cit-*)."

[20] In this regard, Sharma (1987-2003: III, 420) states that, without the use of °*vacane*, the rule would have taught to imply *abhijñā-* as the specific co-occurring word itself.

information, i.e., when a second verbal phrase is used to complete the sense of the first (*sākāṅkṣe*),[21] together with a co-occurring *upapada* conveying the sense of 'recollection' and the presence/absence of *yad* used as a conjunction. This means that the affix *lṚṬ* can freely alternate with the affix *lAṄ* (i.e., both a future and an imperfect verbal form can be formed) to express completion of the sense even in the presence of the conjunction *yad* – therefore, in such a case, the application of [2] is blocked.[22] Modern Pāṇinian scholars do not deviate from the traditional interpretation of [1]-[3].[23]

Actually, these three rules find only scarce application in Sanskrit literature. In particular, they are never attested in the Vedic works that constitute a literary reference for Pāṇini in composing the *Aṣṭādhyāyī*.[24] Some instances of this usage of the future tense are only attested in much later *kāvya* works, whose authors were evidently knowledgeable of Pāṇini's grammar: in particular, two instances (= [4], [5]) are found in the *Bhaṭṭikāvya* (between the mid-sixth century and the mid-seventh century CE ca.) and another (= [6]) is found in the *Śiśupālavadha* (seventh century CE ca.).[25] As is well known, grammatical erudition is one of the fundamental traits of *kāvya*. In the case of the *Bhaṭṭikāvya*, the *vyākaraṇa* is even one of the organising principles of the work that aims to explain the rules of Pāṇini by applying them in its text.[26] Given the educational purposes with which rules [1]-[3] are applied in the *Bhaṭṭikāvya*, the occurrences [4] and [5] are even less significant than [6]. The passages in question are the following:

[4] BhK VI, 141-142:

mriyamāṇaḥ sa sugrīvaṃ proce sadbhāvam āgataḥ |
***saṃbhāviṣyāva** ekasyām **abhijānāsi** mātari* || 141 ||

*avasāva nagendreṣu **yat pāsyāvo** madhūni ca |*
abhijānīhi tat sarvaṃ bandhūnāṃ samayo hy ayam || 142 ||

While dying, he told Sugrīva, having repented: "**Do you remember** that **we were born** (application of [1]) of the same mother, **when we dwelled** (application of [2]) in the Himālayas, and **we drank** (application of [3]) nectar? Remember all this since this is the right moment for kinsmen."

[5] BhK XVI, 36-37:

*n**ābhijñā** te mahārāja **jeṣyāvaḥ** śakrapālitam |*
dṛptadevagaṇākīrṇam āvāṃ saha surālayam || 36 ||

*n**ābhijñā** te sayakṣendraṃ **bhaṅkṣyāvo yad** yamaṃ balāt |*
*ratnāni c**āhariṣyāvaḥ prāpsyāvaś** ca purīm imām* || 37 ||

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[21] The constraint *sākāṅkṣe* has been commented upon by Patañjali as follows (M II, 119 ll. 9-12 *ad* A 3.2.114): *bhavet pūrvaṃ param ākāṅkṣati iti sākāṅkṣaṃ syāt | paraṃ tu katham sākāṅkṣam | param api sākāṅkṣam | katham asti asmin ākāṅkṣā iti ataḥ sākāṅkṣam |* "There should be [said] that when the first [action] requires the second to complete the sense, this is *sākāṅkṣa*. But how can the second be *sākāṅkṣa*? The second too is *sākāṅkṣa*. How? Since there is the expectancy of it, it is then *sākāṅkṣa*."

[22] There is a *vārttika* of Kātyāyana relating to A 3.2.114 expressing that *sarvatra* ('in every case') should be read together with this *sūtra* (M II, 119 l. 13 Vt. 1 *ad* 3.2.114: *vibhāṣā sākāṅkṣe sarvatra*). According to Patañjali's comment on this *vārttika*, *sarvatra* means that this rule applies with or without the occurrence of *yad* used as a conjunction (M II, 119 l. 14 *ad* Vt. 1 *ad* A 3.2.114): *kva sarvatra | yadi ca ayadi ca |* "In what sense is *sarvatra* [used]? [It is used] with or without *yad*."

[23] See Böhtlingk (1887a: 105); Renou (1947-1954: I, 204); Katre (1987: 252-253); Sharma (1987-2003: III, 419-421).

[24] A partial corpus search in the Digital Corpus of Sanskrit (DCS) of the verbal bases *abhijñā-*, *smṛ-*, *cit-* and *budh-* (i.e., those cited by KV *ad* A 3.2.112) shows that there are no unambiguous occurrences of such a usage of the future in Vedic and Early Classical Sanskrit works.

[25] I owe these references to Renou (1996: 462) and Bronner and McCrea (2012: 447, fn. 50).

[26] See Narang (1969: 85-96); Suzyka (2000).

Do you not **remember**,[27] O Great King, that we two **conquered** (application of [1]) together the abode of the gods protected by the Mighty one (i.e., Indra) and full of hosts of bold gods? **Do** you not **remember when we** vigorously **defeated** (application of [3]) Yama together with the king of the Yakṣas (i.e., Kubera) and **stole** (application of [3]) [their] jewels and **obtained** (application of [3]) this city?

[6] ŚV I, 68:

__smaraty__ ado dāśarathir bhavan bhavān amuṃ vanāntād vanitāpahāriṇam |
payodhim ābaddhacalajjalāvilaṃ vilaṅghya laṅkāṃ nikaṣā **haniṣyati** *|| 68 ||*

Does your honour **recollect** that, when born as the descendant of Daśaratha (i.e., Rāma), **you killed** (application of [1]) near Laṅkā the one who abducted [your] lovely wife from the woods, after crossing the ocean, the turbid and agitated waters of which had been subdued?

These occurrences are helpful for only one purpose, namely to ascertain what the interpretation of rules [1]-[3] was at the time of composition of the BhK and ŚV, i.e., around the seventh century CE. Indeed, as is evident from the text itself and Mallinātha's commentary on these passages,[28] such rare rules are applied according to the traditional interpretation of [1]-[3], corresponding to that of the *vyākaraṇa* commentators discussed above.

The scarce attestation of this peculiar usage of the future tense has attracted the attention of Western scholars dealing with the syntactic features of Sanskrit future tense. Speijer (1886: 261), who did not quote any other instances than those provided by *vyākaraṇa* authors and considered this usage quite awkward, argued that the commentators might have misunderstood Pāṇini's rule. In particular, he proposed that *abhijñā-* could have been used in the sense of 'purpose'; thus, the three rules at stake would teach a sort of future in the past (similar to the Latin passive periphrastic construction in the past). Böhtlingk (1887b: 186) strongly rejected this hypothesis defining it as "ein unglücklicher Versuch die Commentatoren Pāṇini's der Unwissenheit zu zeihen." The latter scholar opined that such a usage of the future tense is not strange if interpreted as denoting an action one is unsure one did in the past.[29] Even though Speijer's proposal to interpret *abhijñā-* as 'purpose' is indeed unacceptable, I believe that, in contrast to Böhtlingk's argument, a misinterpretation by commentators is at least assumable (see § 4). Given the near absence of occurrences related to [1]-[3] (together with the linguistic peculiarity itself of this usage of the future tense), the attestation of something similar in Niya Prakrit documents is, in fact, already very significant. However, unlike what Burrow stated (1937: 61), what is found there does not precisely fit the first of the three rules of Pāṇini at stake if their traditional interpretation is followed (see § 3).

3. The Niya Prakrit occurrences (CKD 182, 309, 376, 435, 621)

According to Salomon (1999: 138-140), Gāndhārī fragments can be stylistically divided into two main groups: (i) those originally composed in Gāndhārī, which is in this case labelled as "colloquial Gāndhārī"; (ii) those originally composed in another MIA language and then translated into

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[27] The nominal sentence *nābhijñā te* literally means 'is there not a memory of yours…?'.

[28] See, e.g., Mall *ad* BhK VI, 141: […] *abhijānāsi smarasi || abhijñāvacane lṛt* (A 3.2.112) *ity abhijñāvacane upapade bhūtānadyatane lṛt | abhijānāsīty etad abhijñāvacanam | abhijñā smṛtiḥ* (see KV *ad* A 3.2.112) || "[The verbal form] *abhijānāsi* ('you recall') [means] *smarasi* ('you remember')." According to *abhijñāvacane lṛt* (A 3.2.112), [the affix] *LṚṬ* [occurs] to denote [an action happened in] the past excluding the present day, provided that there is a co-occurring word expressing 'recollection'. *abhijānāsi*: this is the expression of 'recollection'; 'recollection' [means] 'memory'.

[29] Given the focus of the paper, I will not dwell on the linguistic origin of this usage of future as well as on its possible parallels in other ancient or modern languages.

Gāndhārī. The Niya Prakrit documents belong to the first group. Despite coming from Central Asia and being "overlain with stereotyped legal and bureaucratic jargon" (Salomon 1999: 140), thus not reflecting the colloquial Gāndhārī spoken at the time in Gandhāra, such documents are, however, a closer testimony to local speech than most Gāndhārī inscriptions and manuscripts. Indeed, if the usage of the future tense as denoting a past action taught by [1], [2] and [3] does not find application in the Vedic works to which Pāṇini referred while composing the *Aṣṭādhyāyī*, then it could be assumed that this was a trait of the local syntax of the language spoken in his region. Given their nature, the Niya Prakrit documents could be used to investigate whether such a local syntax trait is found while keeping in mind that Niya is in a region farther north than Gandhāra (Pāṇini's homeland) and that some centuries have passed (see § 1). Here is the list of the Niya Prakrit occurrences of future verbal forms denoting past actions identified by Burrow (1937: §124):

[NP-1] CKD 182 (ll. 2-4):

(2) *iśa Kaṃjaka viñaveti yatha eṣa rayakaüṭavala purva* rayakaüṭavalana rajade rakṣavala* (3) **deyiṣya[ṃ]ti** *ahuno edeśa rakṣavala na denaṃti purva* rayaka uṭa caturtha divasa vurḍhi* (4) **bhaviṣyati**

Kaṃjaka informs us that he is a keeper of the royal camels. Formerly* they **used to provide** from the state guards for the keepers of the royal camels; now they are not giving guards to those people. Formerly* the royal camels **used to be** *vurḍhi* (=?) on the fourth day (tr. Burrow 1940: 34, with modifications; my emphasis).

[NP-2] CKD 309 (ll. 1-2):

(1) *yo tahi purva atra rajadhara* (2) *huaṃti taṃ kala* adehi koyimaṃḍhina aṃna milima 1 100 20 20 10 [iśa]* **aniṣ(*y)[a](*ṃ)[ti]**

The people who were in charge of the government there before you, at that time* they **used to bring** here 150 *milima* of *koyimaṃḍhina* corn (tr. Burrow 1940: 56).

[NP-3] CKD 376 (ll. 4-5):

(4) *caturtha karya purva* m[ā]s̱[ā]num[ā]s̱a lehare* (5) **gachiṣyati** *tuo leharagena*[30] **vitha[viṣya]s̱i**

A fourth matter: Formerly* a letter-carrier **used to go** every month, (but) you **used to withhold** the letter-carrier (tr. Burrow 1940: 75-76, with modifications; my emphasis).

[NP-4] CKD 435 (l. 3):

(3) *purva rajadharma yasya rayaka dharmaṃmi manuśa atha vā stora* **mariṣyati** *avaśa rajadharmade ciṃtitaga bhavati*

The traditional law of the land is that of whomsoever a man or beast **dies** for sure while in state employment, it has to be reckoned (= paid out) from the administration (tr. Burrow 1940: 88-89, with modifications; my emphasis).

[NP-5] CKD 621 (ll. 2-3):

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[30] Burrow's translation of this sentence leaves the <na> in front of *vitha[viṣya]s̱i* unexplained. Since it is evident that negation is not intended, *leharagena* could be assumably read as a single word. Under this interpretation, *leharagena* (instrumental singular of *leharaga*) could be an instance of the instrumental case used for the direct object (see Burrow 1937: § 118). In connection with this, *lehare* could be considered as declined in the direct case singular in *-e* (*lehare* < **leharae* < *leharaga*; as for *-ae* > *-e*, see Burrow 1937: § 53) and not in the direct case plural (cf. Burrow 1937: § 60). Also, the verbal form *gachiṣyati* can be understood as conjugated in the third person singular, aligning with the absence of an *anusvāra* in the text. I am indebted to an anonymous reviewer for suggesting this interpretation to me.

(2) *eṣa Sagamovi ogu Aśoga ni kilmeci Catoye ṣa vaṃti bala simaya **asiṣyāti** taṃ kalaṃmi**
eṣa Cato* (3) *śramana S[uṃ]daraṣa dhitu Supriya nama bharya anita caṃñatrena*

A member of the *kilme* of the *ogu* Aśoka, he **used to dwell** when young next door to Cato. At that time** Cato took to wife the daughter of the *śramana* Sundara, called Supriya (tr. Burrow 1940: 129; my emphasis).

[NP-6] CKD 634 (ll. 2-3):

(2) *dvi tre vara imade lekha atra preṣemi tahi iśa gaṃtavo asi ajakra divaṣa iśa na* (3) ***agachiśatu***

I have sent a letter two or three times (telling you) that you had to come here, and up to the present day **you have not come** (tr. Burrow 1940: 131; my emphasis).

Unfortunately, I could not find any other Gāndhārī future verbal forms with this particular usage in the presently available corpus, perhaps due to the scarcity of documents reflecting the colloquial Gāndhārī of the time.[31] Before turning to the cross-analysis with Pāṇini's rules, I exclude two occurrences that, in my view, are marked differently from the other four, namely [NP-4] and [NP-6]. In the case of [NP-4], the third-person future form *mariṣyati* (lit. 'he will die') is used to denote eventuality: it thus refers to the eventual situation under which the traditional state law (*purva rajadharma*) applies, i.e., in the case of the death of a man or beast working for the state (*rayaka dharmaṃmi manuśa atha vā stora mariṣyati*). In the case of [NP-6], the second-person future form *agachiśatu* (lit. 'you will come') denotes an action that extends from the past to the present day (≠ *anadyatane*, if Pāṇini's category is considered), as also expressed by the phrase *ajakra divaṣa* ('up to the present day'). In both occurrences, there is actually no form of "recollection" (even bland) in it (in [NP-4], *purva*, lit. 'earlier', here 'traditional', is used as a qualifier for *rajadharma*, 'state law').

Turning to the rules of Pāṇini under analysis, one should investigate the connection with the general rule of the three, namely [1] (since [2] and [3] represent its *apavāda*s). In contrast to what Burrow argued, the four remaining occurrences, viz., [NP-1], [NP-2], [NP-3], and [NP-5], do not *exactly* match rule [1], if its traditional interpretation is followed: there is no nominal or verbal *upapada* conveying the sense of 'to remember'. The only element that could at most indicate the placement of these future verbal forms in the past is the presence of temporal phrases (indicated with an asterisk in the texts above), i.e., *purva* (used adverbially as 'formerly') in [NP-1] and [NP-3], *taṃ kala* ('at that time') in [NP-2], and *taṃ kalaṃmi* ('id.') in [NP-5]. However, these phrases do not certainly overlap with the *upapada*s exemplified by the *vyākaraṇa* commentators. On the other hand, it should be noted that the fact that the future verbal forms in [NP-1], [NP-2], [NP-3] and [NP-5] seem to denote imperfective actions (in terms of verbal aspect) does not constitute an obstacle from a Pāṇinian point of view, considering that there is no specification regarding the aspect of the action in rule [1].

Considering these data, I conclude that, as formulated, Burrow's hypothesis is not reflected in the traditional interpretation of [1] (and neither [2] nor [3] can be applied). In the next paragraph, I propose an alternative reading of the three rules at stake that may allow reconciliation with the Niya Prakrit occurrences discussed here (see § 4).

4. Towards a reconciliation: an alternative reading of A 3.2.112-114 and a new light on the Niya Prakrit occurrences

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[31] I looked in the *avadāna*-type texts, which, according to Salomon (1999: 139-140), are the closest to the colloquial Gāndhārī, but I found nothing like the occurrences at stake.

As shown above (see § 2), rules [1], [2], and [3] find no actual application except for the much later *kāvya* occurrences [4]-[6], which are nothing but a demonstration of grammatical erudition and follow the *vyākaraṇa* commentators' interpretation of the rules. This circumstance has prompted me to entertain that the tradition might have misinterpreted the three rules of Pāṇini under scrutiny. In this regard, one can cite quite more than one instance of rules, the traditional interpretation of which (mostly depending on the reading of Kātyāyana and Patañjali) has been questioned by recent studies to demonstrate that it deflects from the original meaning that a given rule had in the *Aṣṭādhāyī*. Suffice it to mention the emblematic case of the constraint *vyaktivacane* of rule A 2.1.51, which Scharfe (1965: 243; 2009: 197-205) proposed to read differently than the commentators.[32] Consequently, I advance an alternative interpretation of [1]-[3] that diverges from that established by the *vyākaraṇa* authors.

As far as only the *Aṣṭādhyāyī* text itself is concerned, my hypothesis is based on two elements, i.e., a) a different metalinguistic reading of the locative in *abhijñāvacane* in A 3.2.112, and b) a comparison with the semantic constraints of other rules of the same section of the *Aṣṭādhyāyī*. In reference to point a), the traditional interpretation of [1]-[3] is grounded in the fact that, within the section of *bhūte* (A 3.2.84 – 3.2.122), in a first set of rules (namely from A 3.2.85 to 3.2.101), the constraints in the locative case can only be read as implying an *upapada* (thus following the metarule A 3.1.92),[33] which is interpreted as a nominal *pada* by *vyākaraṇa* commentators for the whole set of A 3.2.85 – 3.2.101. However, in the subsequent set of rules, the constraints in the locative case have been used differently, i.e., to express conditioning with respect to the *adhikāra bhūte* of A 3.2.84 and not to imply the co-occurrence of a word:

I. In rule A 3.2.111,[34] the constraint *anadyatane* means that the affix *lAṄ* taught in this rule is used to denote not merely a past action but precisely a past action which excludes the present day (and, given its opposition with *lIṬ* taught in A 3.2.115, witnessed by the speaker).

II. In rule A 3.2.115,[35] the constraint *parokṣe* ('beyond the speaker's perception') means that the affix *lIṬ* (= perfect) is used to denote not merely a past action but precisely a past action excluding the present day (*anadyatane* is continued by *anuvṛtti* from A 3.2.111), which has not been witnessed by the speaker.

III. In rule A 3.2.117,[36] the constraint *praśne* ('question') and *āsannakāle* ('close in time') mean that the affixes *lAṄ* and *lIṬ* are used to denote not merely a past action but precisely a past action excluding the present day (*anadyatane* is continued by *anuvṛtti* from A 3.2.111), unwitnessed by the speaker (*parokṣe* is continued by *anuvṛtti* from A 3.2.115), which constitutes a question and is close in time.

IV. In rule A 3.2.120,[37] the constraint *pṛṣṭaprativacane* (lit. 'answering a question') means that the affix *lAṬ* (= indicative) is used to denote not merely a past action but precisely a past action which constitutes an answer to a question.

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[32] This hypothesis has been accepted by some scholars (see Wezler 1976: 367; Thieme 1982: 9 fn. 7; Pontillo 2009 [2010]: 147-150; Mocci and Pontillo 2020: 48-51) but rejected by others (cf. Cardona 1976: 196, 334 fn. 203; Cardona 1997: 594, Kiparsky 1979: 215 fn. 9; Joshi and Roodbergen 1982: 88; Scharf 1996: 74 fn. 78).

[33] See footnote 15.

[34] See [0] in § 2.

[35] See footnote 13.

[36] A 3.2.117: *praśne cāsannakāle* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84 *anadyatane* 111 *parokṣe liṭ* 115 *laṅ* 116] "[The *l*-substitutes of *lAṄ* and *lIṬ* occur after a verbal base to denote a past action excluding the present day and beyond the speaker's perception], provided that it constitutes a question and is close in time."

[37] A 3.2.120: *nanau pṛṣṭaprativacane* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84 *laṭ* 118] "[The *l*-substitutes of] *lAṬ* (= indicative) occur [after a verbal base] co-occurring with the particle *nanu* ('not at all', 'certainly') [to denote a past action] in response to a question."

Considering these elements, I think that the locative constraint *abhijñāvacane* in A 3.2.112 (continued by *anuvṛtti* in A 3.2.113-114) should not be read as implying an *upapada* having the sense of 'recollection'. Just like in the rules mentioned above, I propose to read this locative as following the general metalinguistic rule according to which it implies a semantic constraint (≠ A 3.1.92). If read as such, it would constitute a second semantic constraint added to *anadyatane* with the meaning of 'expressing (°*vacana*) a recollection (*abhijñā*°)', both considered as qualifiers to *bhūte*: thus, the denotation of a past action (*bhūte*), excluding the present day (*anadyatane*), and expressing a recollection (*abhijñāvacane*) will constitute the limitation of these three rules. Following this hypothesis, [1]-[3] are read as follows:

> [#1] A 3.2.112: *abhijñāvacane lṛṭ* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84 *anadyatane* 111]
>
> [The *l*-substitutes of] *lṚṬ* (= sigmatic future) occur [after a verbal base to denote a past action excluding the present day], provided that recollection is expressed.
>
> [#2] A 3.2.113: *na yadi* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84 *anadyatane* 111 *abhijñāvacane lṛṭ* 112]
>
> [The *l*-substitutes of *lṚṬ*] do not occur [after a verbal base] in conjunction with *yad* ('that', 'when') [to denote a past action excluding the present day, provided that recollection is expressed].
>
> [#3] A 3.2.114: *vibhāṣā sākāṅkṣe* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84 *anadyatane* 111 *abhijñāvacane lṛṭ* 112 *na yadi* 113]
>
> [The *l*-substitutes of *lṚṬ*] marginally [occur after a verbal base, in conjunction or not with *yad* ('that', 'when'), to denote a past action excluding the present day, provided that recollection is expressed], in the case of the speaker's wish to add information.

In reference to point b), from the semantic constraints of some other rules in this section of the *Aṣṭādhyāyī*, the use of the verbal forms taught within direct speech has to be assumed:

- Rule A 3.2.117[38] presupposes an interrogation, expressed by the constraint *praśne*.
- Rules A 3.2.120[39] and 3.2.121[40] presuppose a response to an interrogation, expressed by the constraint *pṛṣṭaprativacane*.

Similarly, I hypothesise that rules A 3.2.112-114 also provide an oral context for their application, i.e., when there is the expression of a memory about a past event by the speaker. With this premise, I refer to a further issue anticipated earlier (see § 1), namely the assumed origin of this construction in Pāṇini's *bhāṣā*. In my view, these rules might have been formulated to account for a peculiar construction present in the syntax of the local language spoken by Pāṇini (perhaps reflected then in the *parole* of Sanskrit). This is the reason why I do not evaluate the examples provided by Patañjali (and then taken up by later grammarians) as expressing the correct and unambiguous interpretation of the three rules under analysis; regardless of this, not even the traditional reading finds application in Vedic and Early Sanskrit sources. The trajectory to be investigated is simply different: with a supposed "local origin" of this construction, the Central Asian Gāndhārī occurrences under review are more significant than the instances offered by *vyākaraṇa* authors. It goes without saying that the Niya Prakrit verbal forms analysed in the present paper cannot represent the *experimentum crucis* for

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[38] See footnote 36.
[39] See footnote 37.
[40] A 3.2.121: *nanvor vibhāṣā* [*pratyayaḥ* 3.1.1 *paraś ca* 3.1.2 *dhātoḥ* 3.1.91 *bhūte* 84 *laṭ* 118 *pṛṣṭaprativacane* 120] "[The *l*-substitutes of *lAṬ* (= indicative)] marginally [occur after a verbal base] co-occurring with the negation *na* ('not') and the particle *nu* ('certainly') [to denote a past action in response to a question]."

this alternative reading of rules A 3.2.112-114. Still, they can be investigated to see whether this construction of the future tense might have been retained over the centuries in the language(s) spoken in the linguistic area of Greater Gandhāra.

Turning to the Niya Prakrit occurrences at stake, I already stated that Burrow's assumption, which is founded on the traditional interpretation of A 3.2.112, does not find confirmation in the passages singled out since there is the absence of *upapada* conveying the sense of 'recollection' (which would be required by the reading given by the *vyākaraṇa* authors) (see § 3). Cross-analysing them with the alternative reading I propose, [NP-1], [NP-2], [NP-3] and [NP-5] would effectively follow rule A 3.2.112 read as [#1] since the following elements are respected:

i. The verbal forms are conjugated in the future tense (= *dhātoḥ*, *lṛṭ*); note that these are all formed with the Sanskritising affix -*iṣya*- (≠ G. affix -*iśa*-).

ii. They actually denote past actions (= *bhūte*) excluding the writer's present day (= *anadyatane*): this element is confirmed by the employment of the temporal phrases *purva* (in [NP-1] and [NP-3]), *taṃ kala* (in [NP-2]), and *taṃ kalaṃmi* (in [NP-5]).

iii. They all express a recollection (= *abhijñāvacane*) of something that happened in the past with respect to the writer's present moment. This can also be understood from the general content of these documents, which are letters addressed to administrative officers in which reference to past events is sometimes made.

iv. The oral context supposed for the application of this rule (and the following ones) is respected since, as explained above (see § 3), Niya documents represent one of the closest sources to the colloquial Gāndhārī of the times.

v. As a final note, a linguistic trait presented by the four Niya Prakrit occurrences that is not regulated by A 3.2.112 (and the following ones) is the imperfective aspect of the past actions denoted. This denotation of "habitual past" can be considered an independent linguistic trait that has arisen over the centuries or a trait already present in Pāṇini's *bhāṣā* but not taught in the *Aṣṭādhyāyī* rules.

One might argue that Burrow himself read A 3.2.112 differently from its traditional interpretation. However, this is not the case since the scholar translated it as: "The future is used for the past when somebody uses *a word recalling something*" (Burrow 1937: 61; my italics). The reference to "a word recalling something" undoubtedly means he was reading the rule as [1], i.e., as implying a co-occurring word (*upapada*) meaning 'recollection', just as the *vyākaraṇa* authors interpreted (see § 2). Another point that can be argued is that, following the traditional interpretation of [1], the aforementioned temporal phrases of [NP-1], [NP-2], [NP-3] and [NP-5] could represent the mandatory *upapada*s required by *abhijñāvacane* according to the commentators. This is again not the case since the adverb *purva* (= Skt. *pūrvaṃ*) and the phrases *taṃ kala* (= Skt. *taṃ kālaṃ*) and *taṃ kalaṃmi* (= Skt. *tasmin kāle*) could at most indicate that the action occurred in a past time but cannot denote 'recollection', as it would be required of the co-occurring word based on the traditional interpretation (besides the fact that all *vyākaraṇa* commentators mention other verbal forms as *upapada*). I conclude that, reading A 3.2.112 as [#1], these Niya Prakrit occurrences can be added to the group of elements that justify the influence of Pāṇini's *bhāṣā* in the codification of certain rules of his grammar (even if not endowed with the same valence as the elements within the *Aṣṭādhyāyī* identified by recent scholarship; see § 1). This particular usage of the future tense to denote past actions might have been, indeed, a trait of local syntax reflected in Pāṇini's grammar, which finds some instances in later Niya Prakrit occurrences belonging to the same (extended) linguistic area.[41]

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[41] Alternatively, considering the dating of Niya Prakrit occurrences (i.e., between the third and fourth centuries CE; see § 1) and the morphological features by which they are characterised, one might wonder whether there is the so-called "Sanskrit revolution" of Gāndhārī (consequently also involving Niya Prakrit) is behind such a usage of the future. By this

5. Conclusion

In this paper, I investigated the usage of the future tense denoting past actions in six occurrences of Central Asian Gāndhārī (= Niya Prakrit), which, according to Burrow (1937: § 124), would follow exactly what Pāṇini taught in A 3.2.112 (see § 1). The analysis of Pāṇinian grammarians' traditional interpretation of this and related rules (A 3.2.113-114) showed that the mandatory condition for its application is the co-occurrence of a word denoting 'recollection' (*abhijñāvacane*), which, as exemplified by the *vyākaraṇa* authors, is another verbal form (e.g., *abhijānāsi*; see KV *ad* 3.2.112). It should be remarked that these three rules find practically no application in Sanskrit except for three occurrences in very late *kāvya* works (dated to the seventh century CE ca.) justified by the grammatical erudition typical of this literary genre (see § 2). From an initial examination of the six occurrences cited by Burrow (CKD 182, 309, 376, 435, 621, 634), it was possible to exclude two (i.e., CKD 435, 634), the usage of which differs from the other four, effectively comparable with that taught by A 3.2.112. However, in the four remaining occurrences (CKD 182, 309, 376, 621), one element is missing for the rule in question to be applied, i.e., there is no *upapada* conveying the sense of 'recollection'. Therefore, contrary to Burrow's assertion, such occurrences do not follow exactly what rule A 3.2.112 teaches, at least if its traditional interpretation is followed (see § 3). Finally, I proposed an alternative reading of A 3.2.112-114, which interprets *abhijñāvacane* not as implying a co-occurring word meaning 'recollection' (≠ A 3.1.92) but as a second semantic constraint added to *anadyatane* ('excluding the present day') referring to the *adhikāra bhūte* (A 3.2.84): following this proposal, A 3.2.112-114 teach one to form future verbal forms to denote past actions excluding the present day, provided that a recollection is expressed. With this alternative reading, the four Niya Prakrit occurrences under analysis follow precisely what is taught by A 3.2.112, joining the group of the elements that frame Pāṇini as a "frontier grammarian" (see § 4).

Acknowledgements

References

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phenomenon (approximately dating from the late second century or early third century CE onwards and regarding not only the Brahmanical circles of Gandhāra but also the Buddhist milieu), the Gāndhārī language was remodelled into a sort of sanskritised *lingua franca*, among the features of which the indication of vowel length is, for instance, found (see Salomon 2001; Strauch 2012: 149-162). Following this account, rather than thinking of a trait of local syntax orally preserved over the centuries in Greater Gandhāra, one might also hypothesise that such use of the future tense was introduced into the Gāndhārī language at the level of such a Sanskritisation process (and one could consequently question the role – if it had one – of Pāṇini's grammar in such a process). However, given the scarce application of [1]-[3] in Vedic and Early Classical Sanskrit literature, I do not lean toward this account. Another argument against this alternative hypothesis is that Sanskrit influence is most notable in the introductory and concluding parts of the Niya documents (see Burrow 1936: 422), while the future forms at stake occur in the more colloquial (and less Sanskritised) inner part of the documents.

Primary literature

A   *The Aṣṭādhyāyī of Pāṇini*. Ed. and Tr. R. Nath Sharma. 6 vols. New Delhi: Munshiram Manoharlal, 1987–2003.

BhK   *The Bhaṭṭikāvya or Rāvaṇavadha composed by Śri Bhaṭṭi with the Commentary of Mallinātha with critical and explanatory notes.* Ed. Kamlashankar Trivedi. 2 vols. Bombay Sanskrit Series no. 56. Bombay: Government Central Book Depot, 1898.

CKD   Stefan Baums and Andrew Glass. 2002–. *Catalog of Gāndhārī Texts.* https://gandhari.org/catalog [last access: 11 December 2023]

KV   *Kāśikā[vṛtti], a Commentary on Pāṇini's Grammar* [of Vāmana and Jayāditya]. Ed. Aryendra Sharma, Khanderao Deshpande, and D. G. Padhye. 2 vols. Hyderabad: Sanskrit Academy, Osmania University, 1969, 1970.

M   *The Vyākaraṇa Mahābhāṣya of Patañjali.* Ed. Franz Kielhorn. 3 vols. Osnabrück: Zeller, 1970 [Bombay 1880–1885].

Mall *ad* BhK   Mallinātha's commentary on the BhK.

ŚV   *The Śiśupâlavadha of Mâgha: with the commentary (Sarvankashâ) of Mallinâtha*. Ed. Pandit Durgāprasād and Pandit Śivadatta of Jeypore. Bombay: Nirnaya Sagar Press, 1888 [1940[11]].

Vt   Kātyāyana's *vārttika*s quoted from the M.

Secondary literature

Agrawala, Vasudeva S. 1963. *India as Known to Pāṇini*. Varanasi: Prithvi Prakashan.

Baums, Stefan, Jens Braarvig, Timothy J. Lenz, Fredrik Liland, Kazunobu Matsuda and Richard Salomon. 2016. The Bodhisattvapiṭakasūtra in Gāndhārī. In *Buddhist Manuscripts, Volume IV*, ed. Jens Braarvig. Manuscripts in the Schøyen Collection. Pp. 267-82. Oslo: Hermes Publishing.

Böhtlingk, Otto, ed. and tr. 1887a. *Pāṇini's Grammatik*. Leipzig: Haessel.

Böhtlingk, Otto. 1887b. Review of Sanskrit Syntax by Dr. J . S. Speyer with an Introduction by Dr. H. Kern. Leiden, E. J. Brill. 1886. *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 41 (1): 179-191.

Boyer, A.-M., E. J. Rapson, E. Senart, and P. S. Noble. 1920–29. *Kharoṣṭhī Inscriptions Discovered by Sir Aurel Stein in Chinese Turkestan*. Oxford: Clarendon Press.

Bronkhorst, Johannes. 1982. The variationist Pāṇini and Vedic: A review article. *Indo-Iranian Journal* 24: 273–282.

Bronner, Yigal and Lawrence McCrea. 2012. To Be or Not to Be Śiśupāla: Which Version of the Key Speech in Māgha's Great Poem Did He Really Write?. *Journal of the American Oriental Society* 132 (3): 427–55.

Burrow, Thomas. 1936. The Dialectical Position of the Niya Prakrit. *Bulletin of the School of Oriental Studies, University of London* 8: 419–35.

Burrow, Thomas. 1937. *The Language of the Kharoṣṭhi Documents from Chinese Turkestan*. Cambridge: University Press.

Burrow, Thomas. 1940. *A Translation of the Kharoṣṭhi Documents from Chinese Turkestan*. James G. Forlong Fund, vol. 20. London: The Royal Asiatic Society.

Cardona, George. 1976. *Pāṇini: A Survey of Research*. The Hague: Mouton.

Cardona, George. 1997. *Pāṇini. His Work and its Traditions. Volume One. Background and Introduction*. Delhi: Motilal Banarsidass.

Cardona, George. 2002. The Old Indo-Aryan Tense System. *Journal of the American Oriental Society* 122 (2). Indic and Iranian Studies in Honor of Stanley Insler on His Sixty-Fifth Birthday: 235-243.

Dahl, Eystein. 2010. Time, Tense and Aspect in Early Vedic Grammar. Exploring Inflectional Semantics in the Rigveda. Leiden: Brill.

Deshpande, Madhav M. 1982. Linguistic Presuppositions of Pāṇini 8.3.26-27. In *Proceedings of the International Seminar on Studies in the Aṣṭadhyāyī of Pāṇini, Held in July 1981*, ed. Shivram D. Joshi and Sureshachandra D. Laddu. Pp. 23-42. Pune: Publications of the Centre of Advanced Study of Sanskrit.

Deshpande, Madhav M. 1983. Pāṇini as a Frontier Grammarian. In *Papers from the Nineteenth Regional Meeting, Chicago Linguistic Society*, ed. Amy Chukerman, Mitchell Marks, John F. Richardson. Pp. 110-116. Chicago: Chicago Linguistic Society.

Deshpande, Madhav M. 1988. Pāṇini and the Northwestern dialect: Some suggestions on Sūtra 3.3.10. In *Languages and Cultures, Studies in Honor of Edgar C. Polomé*, ed. Mohammad Ali Jazayery and Werner Winter. Pp. 111-122. Berlin: De Gruyter.

Deshpande, Madhav M. 1992. Sociolinguistic Parameters of Pāṇini's Sanskrit. In *Vidyā Vratin, Prof. A. M. Ghatage Felicitation Volume*, ed. V. N. Jha. Pp. 111-130. Delhi: Sri Satguru Publications.

Deshpande, Madhav M. 1993. *Sanskrit and Prakrit. Sociolinguistic issues*. MBLD Series in Linguistics, 6. Delhi: Motilal Banarsidass.

Falk, Harry. 1993. *Schrift im alten Indien. Ein Forschungsbericht mit Anmerkungen*. ScriptOralia, 56. Tübingen: Gunter Narr.

Falk, Harry. 1994. Von Götterfiguren und menschlichen Göttern. In *Festschrift Klaus Bruhn*, ed. Nalini Balbir and Joachim K. Bautze. Pp. 313-331. Reinbek: Verlag für Orientalistische Fachpublikationen.

Freschi, Elisa, and Tiziana Pontillo. 2013. *Rule-Extension-Strategies in Ancient India: Śrautasūtra, Mīmāṃsā and Grammar on Tantra- and Prasaṅga-Principles*. Frankfurt am Main: Peter Lang GmbH.

Hock, Hans Henrich. 2012. Sanskrit and Pāṇini: Core and periphery. *Sanskrita Vimarsha* 6: 85-102.

Joshi, Shivram D., and Jouthe A. F. Roodbergen. 1982. The Structure of the *Aṣṭādhyāyī* in Historical Perspective. In *Proceedings of the International Seminar on Studies in the Aṣṭadhyāyī of Pāṇini, Held in July 1981*, ed. Shivram D. Joshi and Sureshachandra D. Laddu. Pp. 59–95. Pune: Publications of the Centre of Advanced Study of Sanskrit.

Katre, Sumitra M., ed. and tr. 1987. *Aṣṭādhyāyī of Pāṇini*. Austin: University of Texas Press.

Keith, Arthur Berriedale. 1920. *Rigveda Brahmanas: The Aitareya and Kauṣītaki Brāhmaṇas of the Rigveda. Translated from the Original Sanskrit*. Harvard Oriental Series, 25. Cambridge, MA: Harvard University Press.

Kiparsky, Paul. 1979. *Pāṇini as a Variationist*. Poona: Publications of the Centre of Advanced Study of Sanskrit.

Kulikov, Leonid. 2013. Language vs. grammatical tradition in Ancient India: How real was Pāṇinian Sanskrit?: Evidence from the history of late Sanskrit passives and pseudo-passives. *Folia Linguistica* 47 (*Folia Linguistica Historica* 34): 59-92.

Liebich, Bruno. 1891. *Panini. Ein Beitrag zur Kenntnis der indischen Literatur und Grammatik*. Leipzig: Haessel.

Lowe, John J. 2015. *Participles in Rigvedic Sanskrit. The syntax and semantics of adjectival verb forms*. Oxford Studies in Diachronic and Historical Linguistics, 17. Oxford: Oxford University Press.

Mawet, Francine. 2012. *Grammaire sanskrite à l'usage des étudiants hellénistes et latinistes*. Leuven / Paris / Walpole (MA): Peeters.

Mocci, Davide, and Tiziana Pontillo. 2020. A Controversial Provision for the Nominative Ending: Nominal Sentences and *Aṣṭādhyāyī* 2.3.46. *Journal of the American Oriental Society* 140(1): 47–80.

Narang, Satya Pal. 1969. *Bhaṭṭikāvya, A Study*. Delhi: Motilal Banarsidass.

Pontillo, Tiziana. 2009 [2010]. Once Again on *vyakti-vacane* in *Aṣṭādhyāyī* I.2.51: *śravaṇaḥ/śravaṇā*. *Rivista di studi sudasiatici* 4: 131-60.

Renou, Louis. 1947–54. *La grammaire de Pāṇini, traduite du Sanskrit avec des extraits des commentaires indigènes*. Paris: Klincksieck.

Renou, Loius. 1996. *Grammaire sanscrite. Tomes I et II réunis*. Paris: Librairie d'Amérique et d'Orient.

Salomon, Richard. 1999. *Ancient Buddhist Scrolls from Gandhāra: The British Library Kharoṣṭhī Fragments*. Seattle: University of Washington Press.

Salomon, Richard. 2001. 'Gāndhārī Hybrid Sanskrit': New Sources for the Study of the Sanskritization of Buddhist Literature. *Indo-Iranian Journal* 44: 241–52

Scharf, Peter M. 1996. The Denotation of Generic Terms in Ancient Indian Philosophy: Grammar, Nyāya, and Mīmāṃsā. *Transactions of the American Philosophical Society* 86 (3). Philadelphia: American Philosophical Society.

Scharfe, Hartmut. 1965. *vacana* 'Numerus' bei Pāṇini?. *Zeitschrift für vergleichende Sprachforschung* 50: 670–81.

Scharfe, Hartmut. 1977. *Grammatical Literature*. Wiesbaden: Otto Harrassowitz Verlag,

Schlosser, Andrea. 2022. *Three Early Mahāyāna Treatises from Gandhāra: Bajaur Kharoṣṭhī Fragments 4, 6, anḍ 11*. Gandhāran Buddhist Texts, 7. Seattle: Washington University Press.

Schoubben, Niels. 2022. Tu quoque?! On the Second Person Pronoun *tusya* (*tuṣa*) and the Second Person Verbal Ending *-tu* (*-du*) in Niya Prakrit. *Journal of South Asian Languages and Linguistics* vol. 9 (1-2): 1-27.

Speijer, Jacob S. 1886. *Sanskrit Syntax*. Leiden: E.J. Brill.

Stein, M. Aurel. 1907. *Ancient Khotan: Detailed Report of Archaeological Explorations in Chinese Turkestan.* Oxford: Clarendon Press.

Strauch, Ingo. 2012. The Character of the Indian Kharoṣṭhī Script and the "Sanskrit Revolution": A Writing System between Identity and Assimilation. In *The Idea of Writing: Writing across Borders*, edited by Alex de Voogt and Joachim Friedrich Quack, 131–68. Leiden: Brill.

Sudyka, Lidia. 2000. What Does the *Bhaṭṭi-kāvya* teach?. In *Essays in Indian Philosophy, Religion and Literature*, ed. Piotr Balcerowicz and Marek Mejor. Pp. 449-460. Warsaw: Oriental Institute.

Thieme, Paul. 1982. Meaning and Form of the Grammar of Pāṇini. *Studien zur Indologie und Iranistik* 8-9: 3-34.

von Hinüber, Oskar. 1990. *Der Beginn der Schrift und frühe Schriftlichkeit in Indien*. Akademie der Wissenschaften und der Literatur, Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse, Jahrgang 1989, 11. Stuttgart: Franz Steiner Verlag Wiesbaden.

Wezler, Albrecht. 1976. Some Observations on the Grammatical Terminology of Pāṇini (Marginalia zu Pāṇini's *Aṣṭādhyāyī* II). In *German Scholars on India. Contributions to Indian Studies.* Vol II, ed. Cultural Department of the Embassy of the Federal Republic of Germany. Pp. 361–79. Delhi / Bombay: Nachiketa Publications.

Whitney, William Dwight. 1892. On the Narrative Use of Imperfect and Perfect in the Brahmanas. *Transactions of the American Philological Association* (1869-1896) 23: 5-34.

Whitney, William Dwight. 1893. On Recent Studies in Hindu Grammar. *The American Journal of Philology* 14 (2): 171-197.