

Pāṇini's Phonological Rules and Vedic: Aṣṭādhyāyī 8.2*

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1. Introduction

1.1 Background

It is generally agreed upon that the major part of Pāṇini's grammar is based on his firsthand linguistic knowledge,¹ although some of his description may have been handed down from his predecessors. Since his language is naturally different from the Sanskrit of much older literature such as the Ṛgveda, Pāṇini includes sūtras which are specifically meant for Vedic usage, marking them with provisions such as *c^handasi*, *mantrē*, *yajusi*, or *brāhmaṇe*. But his language must have overlapped with Vedic Sanskrit to some extent, and it is conceivable that Pāṇini referred to a phenomenon which appears distinctly Vedic to us, but which may not have been different from the spoken language in his eyes, without marking the rule as Vedic.

Judging from the variety of sūtras labeled Vedic, Pāṇini was well versed in the usage of both hymnal and liturgical literature of the Veda. The relationship between Pāṇini and the Veda has drawn the attention of Western scholars since the mid-nineteenth century. Among crucial contributions to this subject is Thieme (1935); according to Thieme (1935:63), Vedic Saṃhitās which served as material for Pāṇini's grammar are the Ṛgveda, the Maitrāyaṇī Saṃhitā, the Kaṭha-Saṃhitā, the Taittirīya-Saṃhitā and the Atharvaveda, and probably the Sāmaveda as well. In recent years, Bronkhorst (1991) argued that Pāṇini knew at least certain parts of the Maitrāyaṇī Saṃhitā, the Kaṭha-Saṃhitā, the Lāṭyāyana-Śrautasūtra, the Mānava-Śrautasūtra, the Vārāha-Śrautasūtra, and the Jaiminīya-Brāhmaṇa, while certain parts of the Sāmaveda, the Vājasaneyi-Saṃhitā, the Maitrāyaṇī Saṃhitā, the Atharvaveda, the Aitareya-Brāhmaṇa, the Kauṣītaki-Brāhmaṇa, the Pañcaviṃśa-Brāhmaṇa, the Jaiminīya-Brāhmaṇa and the Śatapatha-Brāhmaṇa show deviation from Pāṇini's rules.

In this paper, we will compare the sūtras in Aṣṭādhyāyī 8.2, which is a section mainly on morphophonological rules and lexical exceptions, with the language of the Vedic corpus, and look at the problem from a phonological point of view.

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¹For the controversy on the language described by Pāṇini, see Cardona (1976:238f).

1.2 Method

As we just mentioned, the sūtras of the Aṣṭādhyāyī dealing with Vedic peculiarities often contain provisions, such as *c^handasī*, which limit the scope of the rule to Vedic, and only such rules are compared with the Veda in some studies. But if Pāṇini's language is closer to Vedic than to what we call Classical Sanskrit, it is worth comparing all the rules with Vedic, unless application to Vedic is precluded by provisions like *b^haśāyām* 'in the spoken language'. For example, Aṣṭ. 6.1.7 *tuj-ādīnāṃ dīrg^ho 'b^hyāsasya* is not limited to Vedic, but it describes forms such as ṚV (ŚS, VS) *tūtujāna-/tūtujānā-*, which occur only in Vedic according to the commentators since Kātyāyana.²

Based on these arguments, we compare Pāṇini and the Veda according to two working hypotheses: One is that Pāṇini intended his grammar to be a descriptive one, and his rules are grounded either on an actual language or texts he had at hand. The other is that Vedic usage is not excluded from the scope of his description unless Pāṇini explicitly says *b^haśāyām* 'in the spoken language'.

Following these hypotheses, we compared all relevant sūtras of Aṣṭ. 8.2 with Vedic, and tried to retrace the thread of his thought. We first looked for actual examples in the Saṃhitās using Vishva Bandhu's indices, Schwarz's reverse index, Bloomfield's concordance, and electronic texts wherever available. When we could not find enough examples there, we turned to the Brāhmaṇas, and then to the Sūtras. Of course, existence of an actual Vedic example for Pāṇini's rule does not automatically mean his knowledge of the text in which it occurs. We do not have all the texts known to him, in the same form as in his days, and we do not know for sure the criteria by which he included certain forms or phenomena in his grammar.³ Instead of trying to judge Pāṇini's knowledge of the Veda by just studying the sūtras of Aṣṭādhyāyī 8.2, we should rather try to accumulate evidence which will ultimately form a more complete picture when a similar effort is made on the rest of the Aṣṭādhyāyī. In the following sections, we will present sūtras which we think contribute to our topic, and Vedic examples for them.

²Renou (1955:107f.) also points out the existence of non-Vedic rules which practically refer to Vedic.

³Even in nipātana-rules where exceptional forms are listed, for example, it is often unclear why certain forms are listed. Ozono (2006), in his paper discussing the exceptional gerundive forms in the nipātana-sūtra Aṣṭ. 3.1.123, suggests the possibility that Pāṇini listed Vedic forms only because they have irregular accent.

2. Material

2.1 Rules of Aṣṭ. 8.2 labeled *c^handasi* ‘in Sacred Literature’⁴

2.1.1 Retention of stem-final /n/ before *-vant-*, *-tama-* and *-tara-*

The possessive taddhita suffixes *-vant-* and *-mant-*, together called *matUP*, are equivalent in meaning and alternate in a phonologically conditioned allomorphy (Macdonell §224:140, §235:142, Debrunner *AiGr.* II-2 §708:880ff.). Although *-vant-* is three times as common as *-mant-*⁵ in the Ṛgveda, the latter being limited to contexts such as after a rounded vowel, Pāṇini first groups them together as *matUP*, and then explains their distribution by defining the contexts of *-vant-* in Aṣṭ. 8.2.9–16. The last two of these sūtras, 15 and 16, have *c^handasi* as their condition.

Aṣṭ. 8.2.15 *c^handasīrah* (9 *mator vah*) “Dans le domaine du Veda (l'élément *v* est le substitut de *m* du suffixe *-mant-*) s'il y a un *i* (*ī*) ou un *r* (à la fin du thème nominal).” (Renou 1966:371)

Except *cakrīvatī-*, *dād^hivant-* and *raśmīvatī-*, listed examples of the suffix *-vant-* attached to stems ending in *i*, *ī*, *r* and *ṛ* are all attested from the Ṛgveda or the Khila onwards. For *tāviṣīvant-* and *rayivánt-*, the Ṛgveda already has *-mant-* forms, 5.58.1 *tāviṣīmantam* and 10.36.10, 10.74.1 *rayimánt-* (cf. Debrunner *AiGr.* II-2 §708ca:880f.).

Examples:⁶

-i-vant-, *-i-mant-*: ṚV, TS *agnivánt-* from *agní-* m. ‘fire’ (accent on the suffix according to Aṣṭ. 6.1.176 *hrasvanuḍb^hyām matup*) :: MS, KS, KapKS, ŚS *agnimánt-*. ṚV, Kh, SV, VS, TS, MS, KS, ŚS *ádrivant-* from *ádri-* m. ‘stone’. ṚV, SV *arcivánt-* from *arcí-* m. ‘radiance’ (accent: Aṣṭ. 6.1.176). ṚV 8.2.28 *ṛṣīvant-* from *ṛṣi-* m. ‘seer’. TS 7.2.1.3 *cakrīvatī-* from *cakrī-* f. ‘wheel’. ṚV 5.31.2, 5.44.7 *jānivant-* from *jāni-* f. ‘woman’. ṚV *tāviṣīvant-* from *tāviṣī-* f. ‘power’ vs. ṚV 5.58.1 *tāviṣīmant-*. ŚS 18.4.17 *dād^hivant-* from *dād^hi-* n. ‘curds’. ṚV *d^hīvant-* from *d^hī-* f. ‘poetic insight’. ṚV 10.85.21 *pátivatī-* from *pāti-* m. ‘husband’. ṚV, VS, TS, MS, KS, KapKS, AV *pátnīvant-* from *pátnī-* f. ‘wife’, ṚV 9.72.4 *púrand^hivant-* from *púrand^hi-* f. ‘gratification’. Kh, TS 1.5.4.3 *bṛhaspátivant-*, MS 4.9.8, 9 *bṛhaspátivant-* from *bṛhaspāti-* m. ‘Bṛhaspati’. Kh, MS, KS, KapKS *b^háratīvant-* from *b^háratī-* f. ‘Bhāratī’. ṚV, AV, MS, VS, TS, SV

⁴For the meaning of *c^handasi*, see Thieme (1935:67f.) and Ozono (2006:1004). As to the question whether *c^handasi* applies to the Śrautasūtras, see Hoffmann (1974:75=*Aufsätze* 543) and Bronkhorst (1991:82).

⁵While *-vant-* has cognates in other Indo-European languages such as Greek, *-mant-* is an Indo-Iranian innovation (Debrunner, *AiGr.* II-2 §708b:880).

⁶AB, ŚB *āsandīvant-* (place name), AB, PB, TB, ŚB *aṣṭ^hīvánt-* ‘knee’, KB, PB *cakrīvant-* ‘wheeled’, and ṚV+ *kakṣīvant-* (p.n. with unclear etymology), which are also somewhat relevant to this sūtra, are separately treated in a nipātana-rule Aṣṭ. 8.2.12 *āsandīvad-aṣṭ^hīvac-cakrīvat-kakṣīvad-rumaṇvac-carmaṇvatī*, which is not limited to Vedic.

vājīnāvānt- from *vājīn-* m. ‘war horse’ (?). ṚV *vṛcīvānt-* p.n. with unclear etymology. ṚV 1.129.7, 2.1.3, 6.5.7, 6.44.1, VS, TS *rayivānt-* from *rayí-* m. ‘property’ (accent: Aṣṭ. 6.1.176) vs. ṚV 10.36.10, 10.74.1, VS, TS, MS, KS, KapKS *rayimānt-*. VS, MS, KS, KapKS *raśmivātī-* from *raśmī-* m. ‘rein’ (accent: Aṣṭ. 6.1.176). ṚV, Kh, VSM, TS, MS, KS *sáktīvānt-* from *sákti-* f. ‘power’. ṚV, SV (Kau), MS, KS, ŚS *sácīvānt-* from *sácī-* f. ‘zeal’. ṚV 10.105.5 *síprīnāvānt-* from *síprā-* f. ‘lip’ (?). ṚV, SV, TS, MS, KS, AV *símīvānt-* from *símī-* f. ‘assiduousness’. ṚV 1.156.4 *sák^hivānt-* from *sák^hi-* m./f. ‘friend’. ṚV *sáptīvānt-* from *sápti-* m. ‘harnessed team’. ṚV, Kh, MS, KS, KapKS *sárasvatīvānt-* from *sárasvatī-* f. ‘Sarasvatī’. ṚV 1.88.2 *svád^hitīvānt-* from *svád^hiti-* f. ‘axe’. ṚV+ *hárivānt-* from *hári-* m. ‘dun horse’. ṚV 1.127.6, 2.31.1 *hṛṣīvānt-* from some form of the root *harṣ/hṛṣ* ‘be excited’. Not exhaustive.⁷

-r-vānt-, *-r-mānt-*, *-ṛ-vānt-*, *-ṛ-mānt-*: ṚV, Kh, SV, KS, KapKS *āśīrvānt-* from *āśír-* f. ‘soma juice mixed with milk’ vs. MS 4.7.1 *āśīrmānt-*. ṚV, ŚS 3.16.3, PS 4.31.3, VSM 34.36 *nṛvānt-* from *nṛ-* m. ‘man’ (accent: Aṣṭ. 6.1.176). ṚV, SV, MS, KS, AV *svārvānt-*, TS *súvarvānt-* from *svār-* n. ‘heaven’

Aṣṭ. 8.2.16 *ano nuṭ* (9 *mator vaḥ*, 15 *c^handasi*) “A *matUP* which, in the Vedic, occurs after a nominal stem ending in *an* is augmented with *nUT* [*nuT*].” (Sharma 2003:511)

When the *-vānt-* suffix is attached to an *n*-stem, the stem-final /n/ is first deleted by Aṣṭ. 8.2.7 *nalopaḥ prātipadikāntasya*, and then the sound *n*, in the shape of the augment *nuT*, is re-introduced before *matUP* (*-vānt-*), by the metarule Aṣṭ. 1.1.46 *ādyantau ṭakitau*. Of the actual forms in the Veda, eight are attested in the Ṛgveda, and the other four are first attested in the Black Yajurveda Saṃhitās, both in the mantra and in the brāhmaṇa sections.

Examples:

ṚV+ *akṣaṇvānt-* from *ákṣi-/akṣán-* n. ‘eye’ (accent according to Aṣṭ. 6.1.176 *hrasvanuḍb^hyām matup* [169 *antodattāt*]). ṚV 10.53.8 *ásmanvānt-* from *ásman-* m. ‘stone’. ṚV, TS, MS, KS, KapKS, AV *ast^hanvānt-* from *ást^hi-/ast^hán-* n. ‘bone’. ṚV+ *ātmanvānt-* from *ātmán-* m. ‘self’. ŚS 6.12.2 *āsanvāt-* from *āsán-* n. ‘mouth’. ṚV+ *udanvānt-* from *udán-* n. ‘water’ (see §2.2.1). ṚV 10.39.9 *ómanvānt-* from *óman-* m. ‘help’, TS 2.6.9.5 *ómanvatī*. ṚV *dad^hanvānt-* from *dád^hi-/dad^hán-* n. ‘curds’ (cf. ŚS *dád^hivānt-* cited above). ṚV *dāmanvānt-* from *dāman-* n. ‘rope, gift’. ṚV 6.15.12=7.4.9 *d^hvasmanvānt-* from *d^hvasmán-* m. ‘defiler’. ṚV+ *pūṣaṇvānt-* from *pūṣán-*

⁷Since the Ab Ultimo index of Vishva Bandhu’s concordance gives a large number of stems ending in *-ivāt/-ivāt*, we looked up only the accented ones. Therefore, we may have left out important forms in unaccented Saṃhitā and Brāhmaṇa texts.

m. 'Pūṣan'. ŚS *brāhmanvatī-* from *brāhman-* n. 'spell'. TS 7.5.12.2, KS Aśv. 5.3:167.21 *majjanvánt-* from *majján-* m. 'marrow'. TS, KS, KapKS, MS *mūrd^hanvánt-* from *mūrd^hán-* n. 'head'. ṚV 9.112.4 *rómaṇvant-* from *rómaṇ-* n. 'hair' (cf. Aṣṭ. 8.2.12 *rumaṇvat-*). ṚV 10.78.3 *vármaṇvant-* from *vármaṇ-* n. 'armour'. ṚV, TS, KS *vṛṣaṇvant-* from *vṛṣaṇ-* m. 'bull'. TS, KS, KapKS *śīrṣaṇvánt-* from *śīras-/śīrṣáṇ-* n. 'head'. TS 2.5.8.1, MS 4.6.1, 4.7.3 *sāmanvant-* from *sāman-* n. 'Sāman'. Cf. ṚV *vānanvant-* from **vānan-/vānar-* 'wood'. ŚB 5.2.1.7 *gartanvān (yúpah)* '(the post) has a hollow' (Eggeling) from unattested **gartán-* (cf. *gárta-* 'hole').

Aṣṭ. 8.2.17 *nād g^hasya* (15 *c^handasi*, 16 *nuṭ*) "That which is termed a *gha*, and occurs after that which ends in *n*, is augmented with *nUṭ* [*nuṭ*] in the Vedic." (Sharma 2003:512)

In Vedic, the stem-final /n/ is also retained when the comparative and superlative suffixes *taraP* and *tamaP* (called *g^ha* according to Aṣṭ. 1.1.22 *taraptamapau g^haḥ*) are attached (cf. Debrunner *AiGr.* II-2 §454a:606). All the examples of this rule in the Veda are first attested in the Ṛgveda, so it is rightly taught here as Vedic.

Examples:

ṚV₅, KS 23.11:87.9, SV *vṛṣantama-* from *vṛṣaṇ-* 'bull'. ṚV, SV, VS, AV *vṛtrahántama-* from *vṛtraháṇ-* 'Vṛtra slayer'. ṚV, SV, VS, TS, KS, ŚB *dasyuhántama-* from *dasyuhán-* 'Dasyu slayer'. ṚV 9₄, SV *matsaríntama-* from unattested **matsarín-*. ṚV, SV, VS, TS, KS, KapKS, AV *madín-tama-*, and ṚV, SV, ŚS, ŚB, JB, PB, TĀ *madíntara-*, from unattested **madín-*. ṚV 10.115.6 *mahíntama-* from *mahín-* 'mighty'. ṚV 4.37.5, 10.115.6, KB *vājíntama-* from *vājín-* 'powerful'. ṚV₆, ŚS 20.20.1, 20.57.4 *śuśmíntama-* from *śuśmín-* 'vehement'.

2.1.2 Exceptional verbal adjectives in *-ta-*

In Aṣṭ. 8.2.61, Pāṇini lists irregular Vedic verbal adjectives that end in *-ta-* instead of *-na-*, which is expected according to Aṣṭ. 8.2.42 *radāb^hyāṃ niṣṭ^hāto naḥ pūrvasya ca daḥ* "The *t* of a *niṣṭ^hā* suffix⁸ which occurs after *r* and *d* is replaced with *n*, with an additional provision that *d* be also replaced with *n*" (Sharma 2003:546).

Aṣṭ. 8.2.61 *nasatta-niṣattānutta-pratūrta-sūrta-gūrtāni c^handasi* (42 *niṣṭ^hāto naḥ*, 57 *na*) "Dans le domaine du Veda les noms verbaux *nasatta* (sens?) *niṣatta* "assis" *anutta* "invincible" *pratūrta* "rapide" *sūrta* "lumineux" *gūrta* "approuvé" (sont tout-faits avec non-substitution de *n* à *t* et autres irrégularités)." (Renou 1966:379f.)

⁸*niṣṭ^hā* suffixes refer to *Kta* (*-ta-*) and *KtavatU* (*-tavat-*) according to Aṣṭ. 1.1.26 *ktaktavatū niṣṭ^hā*.

Of the six forms *nasatta-*, *niṣatta-*, *anutta-*, *pratūrta-*, *sūrta-* and *gūrta-*, all but the first occur in the Ṛgveda and Yajurveda Saṃhitās such as the Vājasaneyi-, Maitrāyaṇī, and Kaṭha-Saṃhitās. On the other hand, *nasatta-* as a word is not attested in Vedic literature, and if it is a verbal adjective as are the others, prefixing *na-* instead of *a-* is rather uncommon, although a few Sanskrit words are taught by Pāṇini as having *na-* instead of *a-* in Aṣṭ. 6.3.75 *nab^hrāṇ-^hnapān-...* (73 *naÑ*). If we interpret this form to refer to two words, *na satta-*, that sequence occurs in the Kaṭha-Saṃhitā, in the same stanza in which *sūrta-* occurs.⁹

Examples:

'nasatta-': *ná sattá* in ★KS 18.1:265:8 *asúrtā súrte rájasi ná sattá yé b^hūtáni samákr̥ṇvann imáni* “who created these living beings, placed in unilluminatedness as if in an illuminated space”. If we read *na satta-* as Knobl suggests (footnote 9), *sattá-* occurs in the following passages: ṚV 1.105.13, 14, 2.36.6, 3.41.2, 7.42.2, 7.56.18, KS 18.1:265:8, ŚS 20.23.2.

niṣatta- ‘placed down’: ṚV, SV, VSM 18.53 (VSK 20.3.3), TS 2.6.12.4, 4.7.13.2, MS 2.12.3:146.13, 4.9.11:132.8, ŚB 9.4.4.5, TĀ 4.11.6 *niṣatta-*; ṚV 1.146.1, 10.82.4 *asúrte súrte rájasi niṣatté yé b^hūtáni samákr̥ṇvann imáni*, VSM 17.28 (VSK 18.3.4), MS 2.10.3:134.7 *niṣattá-* (accent!); KS 18.15:276.2, KapKS 28.2:140.16, 29.4:151.20, *niṣattaḥ*. Cf. ṚV 5.60.1, MS 4.14.11:232.12 *prasattáḥ* (accent!); ṚV 5.15.1 *g^hrtá-prasattaḥ*.

ánutta-: This form can be analyzed as *á-nutta-* ‘not pushed away’ or *án-utta-* ‘not moistened’. But Pāṇini provides that *nud* ‘push away’ and *ud/und* ‘moisten’ can make verbal adjective forms with *-tá-* as well as with *-ná-* in Aṣṭ. 8.2.56 *nudavidondatrāg^hrāhrīb^hyo ’nyatarasyām*, and it is strange that he mentions this form here again. *ánutta-* should be taken as *ánu-tta-* ‘conceded, given in’, a verbal adjective form of the verb *dā* ‘give’, attested in ṚV, SV, (RV 1.165.9a ~) VSM 33.79 (VSK 32.6.10), MS 4.11.3:169.7, KS 9.18:122.5 (given under *á-nutta-* in Vishva Bandhu’s index).

pratūrta- ‘conquered’: VSM 11.12 (VSK 12.2.1), TS 4.1.2.1, 5.1.2.1, MS

⁹Citation across a word boundary is not unknown in grammatical literature: Vājasaneyi-Prāśisākhya 3.83, for example, treats the sequence *yāsi sat-* in VSM 33.27 *yāsi satpate* as if it were one word.

Another possible interpretation of *nasatta-*, suggested to me by Werner Knobl (p.c.), is to take it as *na satta-*, where *na* negates the substitution of *-na-* for the suffix *-ta-* taught in Aṣṭ. 8.2.42 *radāb^hyāṃ niṣt^hāto naḥ -na-* substitution taught in Aṣṭ. 8.2.42 is once negated in 8.2.57 *na d^hyā-k^hyā-pṝ-mūrcc^hi-madām*, but since three nipātana-rules coming after it make the negation ambiguous, it is possible that *na* is stated here once again to make clear that *-na-* substitution does not take place in the listed forms. According to this interpretation, *sattá-*, a verbal adjective of *sad* ‘sit’ attested almost only in the Ṛgveda and a form highly characteristic of it, is aptly included here in the list of exceptional *-ta-* forms, and all the forms except *pratūrta-*, which occurs in the Yajurveda Saṃhitās first, are attested in the Ṛgveda. In this paper, I followed the traditional interpretation, for I could not find enough sūtras (e.g. Aṣṭ. 6.2.91 and 101) supporting the collocation of *na* with a nominative form.

2.7.2:74.19, KS 16.1:221.8, 19.2:2.5 *prátūrtam*.
sūrta- 'sunny': ṚV 10.82.4, VSM 17.28 (VSK 18.3.4), MS 2.10.3:134.7,
 KapKS 28.2:140.16 *sūrte* in the same verse as *niṣatté*. KS 18.1:265.8
sūrte in the same verse as *na sattā*,
gūrtá- 'accepted respectfully': ṚV, ŚS *gūrtá-*. VSM 25.37 (VSK 27.1.41),
 TS 4.6.9.2, *ab^hígūrtam*. Compounds not exhausted.

2.1.3 Sandhi of final /s/ and /r/

In Pāṇini's sandhi system, an underlying pada-final /s/ first undergoes wholesale replacement by an intermediate sound element *rU* (/r/), which surfaces as *ḥ*, *s*, *ṣ* etc. depending on the following sound. An underlying final /r/ is different from a final /s/ in that it remains /r/ in such contexts as /-a__ V-/; in some words, such persistent /r/ is labeled *rA* (or simply *r*) instead of *rU*. The final sound of the three words listed in Aṣṭ. 8.2.70 is treated both as *rA* and *rU* in Vedic according to Pāṇini.

Aṣṭ. 8.2.70 *amnar-ūd^har-avar ity ub^hayat^hā c^handasi* (8.1.16 *padasya*, 66 *ruḥ*, 69 *raḥ*) "The final sound segment of a *pada* in the Vedic, particularly one constituted by *amnas* '...', *ūdhas* '...', and *avas* '...', is replaced either way (*ubhayathā*), with *rA* or *rU*." (Sharma 2003:568f.)

Actual examples of /amnas V-/ appearing as *amnar* V- are first attested in the Āpastamba Śrautasūtra, a Śrautasūtra ascribed to the Taittirīya school of the Black Yajurveda. The stem *ūd^har* undergoes sandhi like that of an *s*-stem in the Ṛgveda, the Maitrāyaṇī Saṃhitā and the Kāṭha-Saṃhitā, and *avár* shows both types once each in the Ṛgveda. Pāṇini probably knew ṚV 1.133.6 and the Āpastamba-Śrautasūtra, or rather, some Saṃhitā text on which the latter is based.

Examples:

amnás 'just now' (Wackernagel, *AiGr*. I §285bγ:339): MS 1.6.10:102.8 *amṇá e-*, KS 6.5:54.4 *a]mnas s-*, KS 8.8:92.11 *amno '-*, MS 1.10.10:150.12 *'mṇó j-*, KS 36.5:72.7, KapKS 4.4:49.2 *amnaḥ s-*, 7.3 *amno '-*, ŚS 8.6.19 *amnó j-* :: *ĀpŚS 6.4.6 *amnar astamite hotavyam*, 6.6.5 *amnar ad^hiśritam vā*.

ūd^har 'udder': ṚV₄ *ūd^ho V-/C_[voiced]-*, MS 3.10.4:134.1 *ūd^haḥ k^h-*, KS 7.5:67.10 *ūd^ha e-*, etc. :: ṚV₂₆ *ūd^har V-/C_[voiced]-*, MS 2.1.8:90.2 *ūd^har a-* etc.

avár 'down' (Wackernagel, *AiGr*. I §284a:335): ṚV 1.163.6 *avó divá* (Padapāṭha *aváḥ*) =TS 4.6.7.2-3, VSM 29.17 (VSK31.3.6), KS Aśv. 6.3:175.15 :: *ṚV 1.133.6 *avár mahá indra dādr^hí* (Padapāṭha *aváḥ*)

Aṣṭ. 8.2.71 *b^huvas ca mahāvvyāhr^hteḥ* (8.1.16 *padasya*, 70 *ub^hayat^hā c^handasi*)¹⁰ "The final sound segment of *bhuvás* is replaced with *rU*,

¹⁰The same provision appears in ŚCĀ 2.52, but it was simply copied from Pāṇini since there is no example in the Atharvaveda.

or *rA*, in the Vedic, when *bhuvās* denotes *mahāvyaḥṛti* ‘...’ (Sharma 2003:570)

This sūtra, to which the provision *c^handasī* is carried over, addresses the final sandhi of the second word of the *Mahāvyaḥṛti*, namely *b^húvaḥ* of the mantra *b^húr b^húvaḥ svàḥ* (Taitt. *súvaḥ*) etc. For *b^húvaḥ*, sandhi of the *s*-stem type is attested in the *Maitrāyaṇī Saṃhitā*, the *Taittirīya-Brāhmaṇa* and the *Śatapatha-Brāhmaṇa*, while *b^huvar* with *-r* is found only in the *Kaṭha-Saṃhitā*. As far as the extant Vedic texts are concerned, it is highly possible that Pāṇini knew the *Kaṭha-Saṃhitā* passages.

Examples:

b^huvar: *KS 6.7:56.9, 8.4:87.13, 22.8:65.8 *b^huvar iti*, 7.13:75.6 *b^húr b^húvar áṅgirasāṃ* :: TB 1.1.5.2 *b^húva ity āha*, ŚB 2.1.4.14 *sa vai b^húr b^húva iti*, MS 1.6.1:86.7 *b^húr b^húvó ’ṅgirasāṃ*, KapKS 35.2:208.29 *b^huva iti*.

2.2 Rules which are not labeled *c^handasī* but are relevant to Vedic texts

2.2.1 *udanvánt-* ‘sea’ or ‘river’

In 2.1.1, we discussed the section from Aṣṭ. 8.2.9 to 16 where the suffix *-vant-* is exceptionally used instead of *-mant-*. The following sūtra, which is not limited to Vedic, also occurs in that section.

Aṣṭ. 8.2.13 *udanvān udadh^hau ca* (9 *mator vaḥ*) “Le mot *udanvān* (N. sg.) est également (tout-formé) au sens de: océan.” (Renou 1966:370)

According to this rule, the exceptional form *udanvánt-* m. is used when it refers to *udad^hi-*, which means not only ‘sea’ as Renou translates, but also ‘river’.¹¹ In the *Saṃhitās*, all the examples of *udanvánt-* seem to mean only ‘having water’. In *Jaiminīya-Brāhmaṇa* 3.239, the sage *Viśvāmitra* addresses *Sindhu* by the vocative form *udanvaḥ* in a dialogue with him. This is probably the first use of *udanvánt-* in the sense of what *udad^hi-* can mean, namely ‘river’.

Examples:

udanvánt-: ṚV 5.83.7, TS 3.1.11.6, KS 11.13:160.20 *udanvātā rát^hena*; ŚBK 2.6.3.11 *udanvātā kaṁśéna vā camaséna vāmṛṇmayen[a*; MS 4.1.3:5.16, KS 31.2:3.17, KapKS 47.2 ~TB 3.2.3.12 (*havyám*) *udanvát*; MS 3.8.8:106.14, KS 25.9:116.17, KapKS 40.2:230.24 *udanvántaḥ (prāṇáḥ)*; JB 3.239 *kat^hodanva[h] paṇāyasi*.

¹¹Words like *samudrá-* do not necessarily mean ‘sea’ but also ‘river’, cf. Klaus (1989). As Pāṇini is a native of Śālatura, which is in the upper Indus valley and is more than a thousand kilometers from the sea, it is possible that *udad^hi-* rather meant ‘river’ than ‘sea’ to him. Böhtlingk (1887:440), Katre (1987:992) and Sharma (2003:509) also take this word as ‘sea, ocean’.

Cf. *udanvátī-*: ṚV 7.50.4 *udanvátīḥ* (*nadyàḥ*) “die wasserreichen” (Geldner); ŚS 18.2.48 *udanvátī dyaúr avamā* “Watery is the lowest heaven” (Whitney); ŚS 19.9.1 *sāntā udanvátīr āpah* “appeased [be] the waters rich in moisture” (Whitney).

2.2.2 *kṣitá-*, *śīnā-* and *aknā-*

The sūtras Aṣṭ. 8.2.42 to 61 treat the allomorphy of the verbal adjectives in *-tá-*, which is replaced by *-ná-* and other suffixes (Debrunner, *AiGr.* II-2 §423:553). Pāṇini first gives phonological conditions in 42 and 43, then lexicographical conditions in 44 and 45, referring respectively to the Dhātu-pāṭha and to the marker *o-* of the root; then he teaches idiosyncratic forms word by word from 46 onward.

Aṣṭ. 8.2.46 *kṣiyo dīrgḥāt* (42 *niṣṭḥāto nah*) “(L’élément *n* est le substitut du *t* du suffixe *-ta-* *-tavant-*) après la racine *kṣi-* “périr” ayant la voyelle longue (...)” (Renou 1966:377)

This sūtra only teaches that the root *kṣi* (*EWAia KṢAY*³ ‘waste away’), when the vowel *i* is long, takes the suffix *-na-* and forms a verbal adjective *kṣīṇā-*. According to Aṣṭ. 6.4.60 *niṣṭḥāyām anyad-artḥe*, the final short vowel of *kṣi* is replaced by its long counterpart when followed by the *niṣṭhā* suffixes *-ta-* and *-tavant-* used in a sense other than that of *NyaT*, namely *karman* ‘object’ or *bḥāva* ‘act’ according to Aṣṭ. 3.4.70; in other words, lengthening takes place only when the resulting form refers to an agent. Then according to Aṣṭ. 6.4.61 *vākrośadainyayoh*, lengthening of the root vowel *i* is optional when *ākrośa-* ‘reviling’ or *dainya-* ‘pitiable state’ is denoted. Thus we get another verbal adjective form *kṣitá-*, which should have these meanings according to Pāṇini. The following are the Saṃhitās and Brāhmaṇa passages where *kṣīṇā-* and *kṣitá-* occur.

Examples:

ŚB 2.4.2.7 (ŚBK 1.3.3.7) *kṣīṇā-*. ŚS 10.3.15 *prākṣīṇa-*. ∴ ṚV+ *ākṣita-*. TS 6.5.10.2₂, MS 4.8.9₂ *kṣitá-*.

kṣīṇā- in the Śatapatha-Brāhmaṇa refers to the invisible state of a new moon, and *prākṣīṇa-* in the Śaunaka-Saṃhitā of the Atharvaveda to trees which have fallen down due to wind, and in neither case does it seem to involve ‘reviling’ or ‘pitiable state’. On the other hand, the passages where *kṣitá-* (*kṣita-*) occurs, namely, TS 6.5.10.1–2₂ *yátḥā pitá putráṃ kṣitá upadhāvati ... yátḥā putráḥ pitáraṃ kṣitá upadhāvati* “as when a father in destitution has recourse to his son” ... “as when a son in destitution has recourse to his father” (Keith 1914:545), MS 4.8.9:117:16 *yátḥā pitá putrán kṣitá upadhāvati* “as a forworn father has recourse to [his] sons”, and 118.1-2 *yátḥā putráḥ pitáraṃ kṣitá* [sic] *upadhāvanti*, refer to an unarguably miserable state. Here Pāṇini’s distinction between *kṣitá-* and *kṣīṇā-* agrees with

the actual difference found in Vedic, although this sūtra is not marked as Vedic.

Aṣṭ. 8.2.47 *śyo 'sparśe* (42 *niṣṭ^hāto nah*) “The *t* of a *niṣṭ^hā* suffix which occurs after verbal root *śyaiN* ‘to be coagulated’ is replaced with *n*, provided *sparśa* ‘touch’ is not the signification.” (Sharma 2003:551)

This sūtra derives the verbal adjective *śīná-* if the sense of touch is not referred to. For root *śyā* (*EWAia* ‘gefrieren, gerinnen, erstarren’), Pāṇini gives two meanings, ‘coagulation’ and ‘touch’ in Aṣṭ. 6.1.24 *dravamūrti-sparśayoḥ śyah*. In Vedic Saṃhitās, *śītá-* in the R̥gveda and the Taittirīya-Saṃhitā means ‘cold’ or ‘coldness’. *śīná-*, which is used in the formula *nīhārám ūṣmāṇā śīnáṇ vāsayā* in the Maitrāyaṇī Saṃhitā and the Vājasaneyi-Saṃhitā, seems to mean not ‘cold’ but ‘ice’, because *śīná-* and *vāsā-* ‘fat’ here must have similarity in their appearance as the parallel pair *nīhārā-* ‘haze’ and *ūṣmāṇ-* ‘vapor’ do. Since ‘coldness’ belongs to the sense of touch (*sparśa-*) while ‘ice’ does not, Pāṇini’s description agrees with the actual usage in Vedic.

Examples:

śītá-: RV+. RV 10.34.9 *śītāh* ‘kalt’ (Geldner), TS 6.2.2.7 *nír hy àgnīḥ śíténa váyati* “for fire goes out through [the contact with] cold” (Knobl) :: VSM 25.9 (VSK 27.9.1), MS 3.15.8:180.1–2 *nīhārám ūṣmāṇā śīnáṇ vāsayā* “haze with vapor, ice with fat”.

Aṣṭ. 8.2.48 *añco 'napādāne* (42 *niṣṭ^hāto nah*) “(L’élément *n* est le substitut du *t* du suffixe *-ta-* *-tavant-*) après la racine *añc-* “courber”, quand il n’y a pas notion ablative.” (Renou 1966:377)

The actual examples of *akná-*, the verbal adjective of *añc* ‘bend’ are attested in the Kaṭha-Saṃhitā and the Taittirīya-Brāhmaṇa, while *aktá-* formed from *añc* ‘scoop’ (*EWAia* *AÑC²* ‘[Wasser] schöpfen’) occurs in the Śatapatha-Brāhmaṇa. Here, too, Pāṇini’s rule, although it is not labeled *c^handasi*, agrees with Vedic usage.

Examples:

KS 29.9:179.1–2 Ms. *nyakṇās* (emended as *nyaknās* by Schroeder), and ŚBK 4.2.1.3 *sámakṇāṅgulih*, with unexpected retroflexion of /n/.¹² TB 1.6.4.2 *nyákna[h*. Cf. VSM 10.19 (VSK 11.6.4), ŚB 5.4.2.5 (ŚBK 7.3.2.5) *údaktāḥ* ‘die herausgeschöpften [Wasser]’ (Hoffmann 1965[=*Aufsätze* 163]). Not exhaustive.

¹²According to Caland’s critical apparatus to the latter, two manuscripts have the reading *samákna-* with dental *n*.

2.2.3 Adjective *ṛṇa-* 'indebted'

Aṣṭ. 8.2.60 *ṛṇam ād^hamarṇye* "The word *ṛṇa* is derived, via *nipātana*, when *ādhamarṇya* 'state of being in debt' is signified."¹³ (Sharma 2003:560)

Böhtlingk, Renou and Katre seem to take this sūtra as simply teaching the noun *ṛṇa-* 'debt'.¹⁴ However, the fact that *ṛṇa-* is treated as a *niṣṭ^hā* form which can function as a verbal adjective referring to the past action (cf. Aṣṭ. 3.2.102 *niṣṭ^hā* [84 *b^hūte*]), and that the meaning is given not as a concrete noun for 'debt' but as an abstract noun *ād^hamarṇya-* 'the state of being a debtor', which is formed from a unique compound *ad^hama-ṛṇa-* 'debtor' (vs. *uttama-ṛṇa-* 'creditor'), makes us suspect that Pāṇini was conscious of the adjectival origin of this word.

The word *ṛṇá-*, which is usually a neuter noun meaning 'debt', can be taken as an adjective in one of its oldest examples, in ṚV 6.12.5 cited below. This sūtra suggests that Pāṇini was aware of the adjective origin of this word, or possibly, Pāṇini had this very passage in mind when he made this sūtra.

Examples:

ṛṇá-: ṚV+ n. 'debt', but ṚV 6.12.5 *ṛṇó ná tāyúr* m.sg.adj. 'Wie ein Schuldner, der zum Dieb wird' (Geldner).¹⁵

2.2.4 Sandhi of the final *ś* of *naś*

Generally speaking, /ś/ and /j/ from the Proto-Indo-Iranian primary palatals *ć and *j surface as a retroflex stop /ṭ~ḍ/ in Sanskrit (Wackernagel, *AiGr*. I §149a:173f, §156:180). However, they end up as velar in a few words either by archaism or by dissimilation to a preceding /r/, e.g. *ṛtv-íj-*, *díś-* and (-)*dṛś-*, and Pāṇini marks such words by suffixing *KvIN* (Aṣṭ. 3.2.58 to 60), which is then replaced with a velar stop by Aṣṭ. 8.2.62 *kvinpratyayasya kuḥ*.

According to Aṣṭ. 3.2.58 to 60, the suffix *KvIN* is attached to nominal stems ending in *sprś-* (root noun of *sparś/sprś* 'touch'), *dṛś-* (root noun of *darś/dṛś* 'look'), *sraja-* f. 'wreath', *diś-* f. 'direction', *ṛtvij-* m. 'priest', *dad^hṛṣ-* 'firm, confident', *uṣṇih-* f. (a kind of meter), *-añc-* (suffix of direction attributed to *añc* 'bend'), *kruñc-* m. 'crane' (attributed to *kruñc* 'be crooked', Dhātupāṭha 1.201), *yuj-* (root noun of *yoj/yuj* 'yoke'). The suffix *KvIN* itself is deleted by Aṣṭ. 6.1.67 *ver aprktasya*, but operations related

¹³In the light of Kāśikā-Vṛtti *ād^hamarṇya-viṣaye*, it might be better to translate it as 'when a debtor is involved'. I thank George Cardona for the reference.

¹⁴Böhtlingk (1887:446): "*ṛṇa* in der Bedeutung „Schuld“." Renou (1966:379): "Le nom verbal *ṛṇa* (est tout-fait pour signifier) dette." Katre (1987:1003) 'debt'.

¹⁵Knobl (p.c.) pointed out to me that any neutre noun can be used adjectivally by 'motion'.

to this suffix are still valid by the power of the paribhāṣā rule Aṣṭ. 1.1.62 *pratyayalope pratyayalakṣaṇam*, and a corresponding velar sound replaces the final sound by Aṣṭ. 8.2.62 cited above. In the case of the verbal root *naś* ‘perish’, the /ś/ can end up either as *k* or *ṭ*.

Aṣṭ. 8.2.63 *naśer vā* (8.1.16 *padasya*, 62 *kuḥ*) “(La gutturale est le substitut) optionnel (de la consonne finale) de la racine *naś*- “périr” (à la fin d’un mot).” (Renou 1966:380)

The Maitrāyaṇī Saṃhitā has a root noun *jīva-náṭ*, which is also given as an example in the Kāśikā Vṛtti. Neither MS *jīva-náṭ* nor RV, VS *práṇak* is ungrammatical because of *vā* ‘optionally’. Although this is not a Vedic rule and we cannot be absolutely sure, Pāṇini might have phrased *vā* deliberately, knowing both the MS and the RV/VS forms.

Examples:

MS 1.4.13:63.4 *jīva-náṭ* :: RV, VS *práṇak* root aor. 3sg. inj. of *naś* ‘perish’ (cf. Cardona 1997a:281).

2.2.5 Exceptional *rU* substitution for primary palatal stems

Aṣṭ. 8.2.67 lists three exceptional stems whose final sounds, all from Proto-Indo-Iranian primary palatals, become *ḥ* via /rU/.

Aṣṭ. 8.2.67 *avayāḥ śvetavāḥ puroḍās ca* (8.1.16 *padasya*, 66 *ruḥ*) “Les Nomin. *avayāḥ* (...) *śvetavāḥ* (...) *puroḍāḥ* (...) (sont) aussi (tout-faits avec “ru” comme substitut de la consonne finale).” (Renou 1966:381)

Of these three words, *avayáj-* (in the form *avayāḥ*) and *puroḍás-* are amply attested in Vedic texts from the Ṛgveda on, whereas *śvetavah-* is not attested anywhere in the Vedic literature. Although this sūtra is not labeled Vedic, the same words and *ukt^haśas-* are given in Aṣṭ. 3.2.71 *mantra śvetavahokt^haśaspuroḍāśo ṇvin* and 72 *ave yajaḥ* as Vedic Mantra words, and so *śvetavah-* must have occurred in some lost Vedic text Pāṇini knew.

Examples:

avayáj-, or rather *ava-yā-* ‘deprecation’ from *yā* ‘entreat’ (*EWAia*. *YĀ*² ‘bitten, anflehen’): RV 1.173.12, VSM 3.46 (K 3.5.3), MS 1.10.2:141.12, 13, KS 9.4:107.11, 35.12:59.4, KapKS 8.7:101.3, ŚB 2.5.2.28 (K1.5.1.25) *avayāḥ*. TS 1.8.3.1, 3.2.8.3, MS 2.3.8:36.17, KS 9.4:107.12, KapKS 8.7:101.3, ŚS 2.35.1, PS 1.88.3 *avayā[h]* ‘expiation’ (Whitney, Keith).

śvetavah-: Not attested in Vedic.

puroḍás-, *-lās-* ‘sacrificial pancake’: RV 3.28.2, 7.18.6 *puroḷāḥ* etc.

2.2.6 Pluti

Pluti (prolation) is sporadically found in the Vedic literature, most typically as a marker of a yes-no or alternative question, such as TS 2.6.5.6 *ágá3n agnīd* “Has he gone, O Agnīdh?” (Keith 1914:211), or MS 1.8.7:125.13 *hotavyá3n ná hotavyá3m iti mīmāṃsante* “The theologians consider, ‘Should the offering be made, or should it not be?’”.

Aṣṭ. 8.2 has a relatively large section of twenty-seven sūtras from Aṣṭ. 8.2.82 to the end of 8.2, which describe the triggering contexts of pluti. Since none of them are provided as Vedic and some treat discourse contexts as in daily transactions, it is difficult to identify which Vedic passage Pāṇini had or did not have in mind when he composed these rules, except the sūtras from 88 to 92, which are related to specific ritual contexts.

Aṣṭ. 8.2.88 *ye yajñakarmani* “La voyelle du pronom *ye* (reçoit la pluti et le ton aigu) au commencement d’un texte sacré.” (Renou 1966:385)

According to the explanation in ĀśŚS 1.5.5.4 to 1.5.5.20, the Hotṛ priest recites a Yājyā hymn whose last syllable is prolated, preceded by an *āgur* call which is ‘*ye3 yajāmahe*’, and followed by a *vaṣaṭ* call which is ‘*vau3ṣaṭ*’. Pāṇini’s sūtras Aṣṭ. 8.2.88, 90, and part of 91 address these three kinds of pluti in the same order, and it is quite likely that Pāṇini knew this part of the ritual.

In the Saṃhitā texts, the Padapāṭha of the Maitrāyaṇī Saṃhitā has prolated *ye3* according to Schroeder’s footnote.

Examples:

MS 1.4.11:59 (Padapāṭha) *ye3 yajāmahe* (Strunk 1983:36). ĀśŚS 1.5.5 *ye3 yajāmaha ity āgūr vaṣaṭkāro ’ntyah sarvatra*, 1.5.15.

Aṣṭ. 8.2.89 *praṇavaṣ teḥ* “La particule *om* (avec pluti et ton selon 87) est substitut de la dernière voyelle (avec la consonne éventuellement subséquente, dans un texte récité au cours d’une action sacrificielle).” (Renou 1966:385)

According to this sūtra, the rhyme of the last syllable of a ritual utterance is replaced by *o3m*. This may be a common practice in the ritual context, but as far as the textual evidence is concerned, the Śatapatha and the Jaiminiya Brāhmaṇas, and the Āpastamba Śrautasūtra, actually give such reading.

Examples:

subrahmaṇyām: ŚB 3.3.4.17 (ŚBK 4.3.4.13) *subrahmaṇyo3m*
subrahmaṇyo3m iti (Strunk 1983:34), TĀ 1.12.3₃, JB 2.78₃, 2.79.
 ĀpŚS 2.15.3 *śrāvayom*. Single replacement of the final vowel by *om* is provided for by Aṣṭ. 6.1.95 *omāṅśoś ca*.

Aṣṭ. 8.2.90 *yājyāntaḥ* “La dernière voyelle d’une formule dite *yājyā* (“adorande”) (reçoit la pluti et le ton aigu, au cours d’une action sacrificielle).” (Renou 1966:385)

Since the Yājyā hymns are recited by Hotṛ priests, the Āśvalāyana Śrautasūtra of the Ṛgveda school to which they belong, has an explanation and an actual example of such prolation.

Examples:

★ĀśŚS 1.5.8 *yājyāntaṃ ca (7 plāvayet)*, with an actual example in ĀśŚS 1.5.15.

Aṣṭ. 8.2.91 *brūhi-preṣya-śrauṣaḍ-vauṣaḍ-āvahānām ādeḥ* “La première voyelle des expressions *brūhi* “dis” *preṣya* “invite” *śrauṣaḥ* “qu’il entende” *vauṣaḥ* “qu’il conduise” *āvaha* “amène” (reçoit la pluti et le ton aigu, au cours d’une action sacrificielle).” (Renou 1966:385)

Pluti occurs in the initial syllable of the listed ritual calls. Although *preṣya* and *āvaha* are not attested with pluti, the other three calls occur with pluti in the Padapāṭha of the Maitrāyaṇī Saṃhitā, and the Āśvalāyana- and the Āpastamba-Śrautasūtras.

Examples:

brūhi: MS 1.4.11:59 (Padapāṭha) *ānu brū3hi* (Strunk 1983:36).

śrauṣaḥ: MS 1.4.11:59 (Padapāṭha), ĀśŚS 1.4.13 *śrau3ṣaḥ*, ĀpŚS 3.7.9 *śrauṣaḍ ity āgnīdh^hraḥ*.

vauṣaḥ: MS 1.4.11:59 (Padapāṭha), ĀśŚS 1.5.15 *vau3ṣaḥ*.

Aṣṭ. 8.2.92 *agnīt-preṣaṇe parasya ca* “In einer an den Agnīdh gerichteten Aufforderung ist auch die nachfolgende Silbe pluta.” (Böhtlingk 1887:450) “(La première voyelle) ainsi que la suivante (reçoivent la pluti et le ton aigu) dans l’invite à l’officiant *agnīdh* (au cours d’une action sacrificielle).” (Renou 1966:386)

In this sūtra, the first and the second syllables undergo pluti in ritual instructions regarding an Agnīdh priest. The expression *agnīt-preṣaṇe* can mean both ‘in an instruction to an Agnīdh’ and ‘in an instruction by an Agnīdh’. In Vedic ritual, an Agnīdh priest plays a role auxiliary to an Adhvaryu, who performs major ritual acts, and it is rather rare that the former verbally instructs someone. One of the utterances of an Agnīdh found in the Śrautasūtras is *astu śrauṣaḍ*, which he says in reply to the Adhvaryu when they request a Hotṛ priest to recite a Yājyā hymn; however, *śrauṣaḍ* is already treated in the last sūtra Aṣṭ. 8.2.91. Another phrase, *ā śrāvaya* ..., which the Kāśikā Vṛtti also cites, is more relevant to our context, and Rudradatta’s commentary on the Āpastamba Śrautasūtra actually teaches

pluti of the first and second syllables of it. This phrase is not uttered by an Agnīdh but uttered to an Agnīdh by an Adhvaryu.¹⁶ Therefore, the expression *agnīt-preṣaṇa-* in this sūtra must be understood as ‘the instruction to an Agnīdh’ as Böhtlingk, Renou and Katre translate and not as ‘the instruction by an Agnīdh’.

Examples:

‘*astu śrausaḍ*’: TS 1.6.11.1 (Adhvaryu:) *á śrāvayéti caturakṣaram* (Agnīdh:) *ástu śráuṣaḍ íti caturakṣaram* (Adhvaryu:) *yájéti dvyakṣaram* (Hotṛ:) *yé yájāmaha íti páñcākṣaram dvyakṣaró* (Hotṛ:) *vaṣatkārāh*. See *Vedic Concordance* s.v. *astu śrausaḍ* for more occurrences in the Saṃhitās. ĀśŚS 1.4.13 *pratyāśrāvayed āgnīdh^hra utkaradeśe tiṣṭ^han sp^hyam id^hmasaṃnahanānīty ādāya dakṣiṇāmuk^ha iti śātyāyanakam/ astu śrauṣṣal ity aukāram plāvayan*. KāŚS 3.2.4 *astu śrausaḍ ity agnīt*. ĀpŚS 2.15.4 *astu śrausaḍ ity āgnīdh^hrah ...*, ĀpŚS 3.7.9 *agān agnīd ity ad^hvaryur āha/ agann ity āgnīdh^hrah/ śrāvayety ad^hvaryuh/ śrausaḍ ity āgnīdh^hrah*. ‘*ā śrāvaya*’: VSM 19.24, TS 1.6.11.1–4 (Darsāpūrnamāsa), 3.3.7.2–3 (Soma), KS 31.13:15.13. *ĀpŚS 2.15.3 *brahman pravaraṅyāśrāvayiṣyāmīti brahmāṇam āmantryāśrāvayo śrāvaya śrāvayom āśrāvayeti vāśrāvayati*, with comm. *atra tṛtīyo nigadas tryakṣaraś caturt^hah praṇavādiḥ// teṣu cādyayor agnītpreṣaṇe parasya ceti prat^hamadvitīyāv acau plavete nānyatra/*.

Cf. RPr. 7.32 *śrāvaya yāvaya ... ādyakṣaram plutam teṣām*.

2.3 Non-Vedic rules of which counterexamples are found in Vedic

2.3.1 Final sandhi of *upānah-* ‘sandal’

The /h/ of the root *nah* ‘bind’ is replaced by /d^h/ when it is word-final (cf. Wackernagel, *AiGr.* I 149bα:175).

Aṣṭ. 8.2.34 *naho d^hah* (26 *j^hali*, 29 *ante ca*, 31 *haḥ*, 32 *d^hātoḥ*)
 “L’élément *dh* (est le substitut du *h*) de la racine *nah-* “courdre”
 (devant un suffixe [primaire commençant par une consonne autre que
 semi-voyelle et nasale; ainsi qu’en] fin de mot).” (Renou 1966:374)

Against this rule, the final /h/ of the root-noun *upānāh-* f. ‘sandal’ ends up as *ḍ* instead of *d* before the dual ablative ending *-b^hyām*, which is a pada-form, in ŚBM 5.5.3.7.

Examples:

!ŚBM 5.5.3.7 (=ŚBK 7.5.2.8) *upānāḍb^hyām ad^hi*.

¹⁶Minkowski (1991:26). I thank Masato Fujii for the reference.

2.3.2 Final sandhi of *áhar* ‘day’

In 2.1.3 above, we mentioned that a pada-final /s/ is replaced by *rU*, but an underlying /r/ is marked *rA* in Pāṇini’s sandhi system. The following rules state that in the declension of the heteroclitic stem *áhar/áhan-*, *áhar* appears in the nominative and accusative singular.

Aṣṭ. 8.2.68 *ahan* (66 *ruh*). “(L’élément “*ru*” est le substitut du *n* final) du mot *ahan* “jour” (...).” (Renou 1966:381)

Aṣṭ. 8.2.69 *ro* ‘*supi* (68 *ahan*). “L’élément *r* (est le substitut du *n* final du mot *ahan*) quand il n’y a pas de désinence casuelle (...).” (Renou 1966:381)

This concise description usually holds true for the final sandhi of *áhar-/áhan-* in Vedic as well, but the Ṛgveda has one form which the latter rule fails to cover (see §3 for further discussion).

Examples:

ṚV 3.48.2 *áhar asya*, 6.9.1 *áhar árjunam*, 7.66.11 *áhar yajñám* :: !ṚV 6.48.17 *áha evá* (Padapāṭha *áhar íti/ evá*).¹⁷

2.3.3 Sandhi of prolated *e* and *o*

When *e* and *o* undergo pluti (for which see §2.2.6), they revert to the original diphthongs and become *a3i* and *a3u* with the nucleus /a/ prolated, according to Aṣṭ. 8.2.107 *eco* ‘*pragrhyasyādūrād-d^hūte pūrvasyār^hasyād uttarasyedutau* “... the first half of *eC* [= /e/, /o/, /ai/ and /au/] is replaced with a *pluta* vowel, namely *ā*, and the second half is replaced with *i* or *u*, provided the context does not relate to calling out at a distance and *eC* is not a vowel termed *pragrhya*” (Sharma 2003:599f.). The next sūtra states that when a vowel follows *a3i* and *a3u*, *i* and *u* of them become corresponding glides *y* and *v* respectively, e.g. TS 6.6.2.3 *yajñápatá3v íti*.

Aṣṭ. 8.2.108 *tayor yvāv aci samhitāyām* “Les éléments *y* et *v* sont les substituts respectifs desdites (voyelles *i* et *u*) devant une voyelle (du mot suivant) en phrase continue.” (Renou 1966:389)

In Vārttika 2 *yaṅ-ādeśaḥ pluta-pūrvasya ca* “Substitution by *y*, *v*, *r* and *l* occurs [respectively to word-final *i*, *u*, *r* and *l* followed by a vowel] when they are preceded by a prolated vowel as well” to Aṣṭ. 6.1.77 *iko yaṅ aci*, Kātyāyana tries to confirm that the sandhi /i/ → *y* / __V applies to the *i* and *u* of /a3i/ and /a3u/ in spite of Aṣṭ. 6.1.101 *akaḥ savarṇe dīrg^haḥ* which

¹⁷Cf. Sāyaṇa’s commentary on *c móta sūro áha evá*: ‘*uta*’ *api ca*, ‘*sūrah*’ *prerakah śatruḥ*, ‘*eva*’ *evaṃ*, ‘*mā*’ ‘*ahaḥ*’ *asmān mā hārṣīt*, where he takes *áha* as an aorist form of the verb *har* ‘take’.

provides single substitution of homogeneous final and initial vowels by their long counterpart, and Patañjali gives examples such as *agnā3y indram*. If Pāṇini had the same idea, the following passages, again from the Taittirīya School, do not agree with his teaching:

Examples:

!TS 6.5.8.4 *ágnā3 íty āha* voc.sg., instead of **ágnā3y íty*. !TB 2.3.6.1 *prajāpatiḥ prajāḥ sṛṣṭvā vy asrañsata. sá hṛdayaṃ b^hūtò 'śayat. átman há3 íty áhvayat. āpaḥ práty aśṛṇvan.*

2.4 Non-Vedic rules which are irrelevant in Vedic

In the preceding sections, we discussed sūtras which are pertinent to the actual Vedic usage, if not intended exclusively for Vedic. Unlike the Prātiśākhya which are intended for the sacred texts of their schools, Pāṇini's grammar treats the living language and often covers colloquial usage, and as such, it naturally contains descriptions which have nothing to do with Vedic, or of which examples are nowhere to be found in the Vedic literature. The following are some of such sūtras found in Aṣṭ. 8.2.

Aṣṭ. 8.2.14 *rājanvān saurājye* “Le mot *rājanvan* (N. sg.) (est tout-formé) quand il s'agit d'un bon gouvernement (...)” (Renou 1966:370). Vedic examples of *rājanvant-* simply mean ‘containing the word *rājan-*’ and the meaning ‘good reign’ is not attested: JB 3.330 *rājanvaj janadvad virātsūryavac caturt^hasyāhno rūpam*, PB 10.6.4 *rājanvaj janavadvat sūryavad virādanutodavac caturt^hasyāhno rūpam*.

Aṣṭ. 8.2.20 *gro yañi* “(L'élément *l* est le substitut du *r*) de la racine *gṛ-* “avalier” devant l'affixe *-ya-* d'intensif” (Renou 1966:372). Aṣṭ. 8.2.21 *aci vib^hāṣā* “... devant un affixe commençant par une voyelle” (Renou). Aṣṭ. 8.2.22 *pareś ca g^hāñkayoḥ* “(L'élément *l* est) aussi (le substitut du *r*) du préverbe *pari* devant l'élément *gha* et le mot *añka* “courbe”” (Renou). The small subsection from Aṣṭ. 8.2.18 to 22 treats verbal forms and preverbs in which /r/ is replaced by /l/. While *paly-ay* ‘walk around’ (KS, KapKS+) and *palāy* ‘flee’ (TS+) taught in Aṣṭ. 8.2.19 *upasargasya ayatau* are attested from the Black Yajurveda Saṃhitās on,¹⁸ no actual forms for these three sūtras are found in Vedic.

Aṣṭ. 8.2.74 *sipi d^hāto rur vā*, 8.2.75 *daś ca* “where the ending in question is *siP*, *R* and *d* optionally replace not only *-s* but also *-d* of a verb” (Cardona 1997a:353). In Aṣṭ. 8.2.73 *tipy an-asteḥ* (8.1.16 *padasya*, 66 *sa-sajusaḥ*, 72 *daḥ*), root-final /s/ becomes /d/ (> /t/) if it is word-final and the form is in the third person singular, probably to make clear the distinction between the second and third person singular in paradigms such as the root aorist. For this rule, there are Vedic examples such as *asrat* (VS etc.) to *sraṃs* ‘fall apart’ or *ag^hat* (VS etc.) to *g^has* ‘eat’ (Whitney, *Gr.* §555a,

¹⁸See Witzel (1990:40ff).

Macdonell, *Ved. Gr.* §28, Wackernagel, *AiGr.* I §154:179, Oertel 1926:18ff., Renou 1952 §74:64, Hoffmann 1960[=*Aufsätze* 100f.]), but we could not find any example of second person singular forms in *-d* provided by 75.

Insofar as our limited research is concerned, the functions of pluti described in the sūtras from Aṣṭ. 8.2.94 *nigṛhyānuyoge ca* to 8.2.106 *plutāv aica idutau* are not confirmed in the actual Vedic literature, except 8.2.100 *anudāttam praśnāntāb^hipūjītayoh* “(La dernière voyelle d’une phrase) au terme d’une interrogation ou d’un énoncé laudatif (reçoit la pluti, mais) avec ton grave” (Renou 1966:387) for which ŚS 11.3.26 *brahmavādīno vadanti pārāñcam odanām prāsīṣṭh pratyāñcāṣm iti* “The theologues say: hast thou eaten the rice-dish as it was retiring, or as it was coming on?” (Whitney) would be counted as an example, and 8.2.102 *upari svid āsīd iti ca* (100 *anudāttam*) which is found verbatim in RV 10.129.5b, VS 33.74 *ad^hāḥ svid āsīṣd upāri svid āsīṣt* (Strunk 1983:97).

3. Discussion

We compared the sūtras of Aṣṭ. 8.2 based on a working hypothesis that Pāṇini’s general sūtras (sūtras without a provisory statement such as *c^handasi*) do not exclude Vedic usage unless he explicitly says so. As we saw in §2.4, there are certainly many rules for which the extant Vedic corpus does not have any actual example. However, the general rules discussed in §2.2 agree with Vedic quite well, and Pāṇini’s general sūtras are well worth comparing with the Vedas. And even among the general sūtras, there are cases where Pāṇini seems to have particular texts in mind, such as Aṣṭ. 8.2.88 and 90 which agree with the Āśvalāyana-Śrautasūtra, and 92 to which the Āpastamba-Śrautasūtra is quite relevant.¹⁹

As far as Aṣṭ. 8.2 is concerned, the sūtras labeled *c^handasi* usually address forms which are first attested in the Ṛgveda. Although Pāṇini’s *c^handasi* rules draw upon the Ṛgveda most often, we also saw that the Ṛgveda forms are not always covered by Pāṇini’s rules, in the case of RV 6.48.17 *āha evā* (§2.3.2) where *āhar* is expected according to Aṣṭ. 8.2.69. In this connection, Cardona (1997b:35ff.) discusses the variation of the type *adukṣat* vs. *ad^hukṣat* in the Ṛgveda and concludes that Pāṇini does not account for forms which were paraphrased by the Padapāṭha with a more general form. Here also, the Padapāṭha paraphrases *āha[h]* as *āhar iti*, and Pāṇini probably considered it unnecessary to explain the irregular sandhi in his grammar as it had already been explained by Śākalya.²⁰

As to the Black Yajurveda text which Pāṇini was most familiar with, Schroeder (1881:xviii), Thieme (1935:63) and Bronkhorst (1991:89) consider

¹⁹Of course, there is a possibility that Pāṇini learned ritual procedures from other sources.

²⁰We might also have to consider textual problems of the Ṛgveda. For example, Deshpande (1979:239ff.) argues that the Ṛgveda which Pāṇini knew was different from the current recension.

that Pāṇini knew the Maitrāyaṇī Saṃhitā best, and next comes the Kaṭha-Saṃhitā, and according to Thieme, he knew the Taittirīya-Saṃhitā as well. For the '*c^handasi*' rules Aṣṭ. 8.2.61 and 8.2.71, the Ṛgveda does not have an actual example for the taught forms, but Black Yajurveda texts, especially the Kaṭha-Saṃhitā, attest actual forms. The Kaṭha-Saṃhitā, the Maitrāyaṇī Saṃhitā and the Vājasaneyi-Saṃhitā have no form that deviates from the sūtras of Aṣṭ. 8.2, and the Kaṭha-Saṃhitā (Aṣṭ. 8.2.61 in §2.1.2, Aṣṭ. 8.2.71 in §2.1.3) and the Maitrāyaṇī Saṃhitā (Aṣṭ. 8.2.47 in §2.2.2, Aṣṭ. 8.2.63 in §2.2.4, Aṣṭ. 8.2.88 and 91 in §2.2.6) attest forms taught there. On the other hand, the Taittirīya-Saṃhitā (Aṣṭ. 8.2.108 in §2.3.3), the Taittirīya-Brahmaṇa (id.) and the Śatapatha-Brahmaṇa (Aṣṭ. 8.2.34 in §2.3.1) show small differences from Pāṇini's description.

In a study on Aṣṭ. 7.2.69 *saniṃ sasanivāṃsam*, Hoffmann (1974:75) points out that forms taught by Pāṇini with *c^handasi* are attested not only in the mantra part but also in the brahmaṇa part of the Black Yajurveda Saṃhitās.²¹ Furthermore, Ozono (2006:1000) argues that the term *c^handas-* covers the brahmaṇa part of the Black Yajurveda, pointing out that the periphrastic aorist forms taught in Aṣṭ. 3.1.42 *ab^hyutsādayām-prajanayāñcikayām-ramayām akaḥ pāvayāñ kriyād vidām akrann iti cc^handasi* occur only there. We also saw a similar distribution of *-n-vant* forms in our discussion on Aṣṭ. 8.2.16 (§2.1.1).²²

Bronkhorst (1991:90) suggests that Pāṇini knew the Lāṭyāyana-Śrautasūtra, the Mānava-Śrautasūtra and the Vārāha-Śrautasūtra, but with respect to the rules in Aṣṭ. 8.2, the Āśvalāyana-Śrautasūtra of the Ṛgveda school and the Āpastamba-Śrautasūtra of the Taittirīyas have pertinent sūtras as mentioned above.

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²¹Hoffmann (1974:75) "Pāṇini versieht übrigens diese Belege, die nicht etwa in einem Opferspruch (Mantra), sondern in der darstellenden Prosa der Yajurveda-Saṃhitās vorkommen, mit der Marke *chandasi* 'in der heiligen Literatur'."

²²Cf. the suggestion of Bronkhorst (1991:95) that Pāṇini may not have known the Brahmaṇa portions of the Taittirīya-Saṃhitā.

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Abbreviations: AĀ: Aitareya-Āraṇyaka. AB: Aitareya-Brahmaṇa. *AiGr.*: *Altindische Grammatik*. ĀpŚS: Āpastamba-Śrautasūtra. ĀśŚS: Āśvalāyana-Śrautasūtra. Aṣṭ.: Aṣṭādhyāyī. *EWAia*: Manfred Mayrhofer, *Etymologisches Wörterbuch des Altindiarischen*. JB: Jaiminīya-Brahmaṇa. KāŚS: Kātyāyana-Śrautasūtra. Kau: Kauthuma. KB: Kauṣītaki-Brahmaṇa. KapKS: Kapiṣṭhala-Kaṭha-Saṃhitā (page and line numbers are given according to the 1968 reprint edition). KS: Kaṭha-Saṃhitā. MS: Maitrāyaṇī Saṃhitā. PB: Pāncaviṃśa-Brahmaṇa. p.n.: proper noun. PS: Atharvaveda, Paippalāda-Saṃhitā. *PW*: Otto Böhtlingk and Rudolph Roth, *Sanskrit-Wörterbuch*. RV: Ṛgveda. ŚBK: Śatapatha-Brahmaṇa, Kāṇva recension. ŚBM: Śatapatha-Brahmaṇa, Mādhyandina recension. ŚS: Atharvaveda, Śaunaka-Saṃhitā. SV: Sāmaveda. TĀ: Taittirīya-Āraṇyaka. TB: Taittirīya-Brahmaṇa. TS: Taittirīya-Saṃhitā. VSK: Vājasaneyi-Saṃhitā, Kāṇva recension. VSM: Vājasaneyi-Saṃhitā, Mādhyandina recension. YV: Yajurveda. !: violation. !?: possible violation. *: passage which Pāṇini probably knew.