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Understanding, interpreting and translating 'grammemes' in the Vedic and Sanskrit verbal systems: a broad synchronic and 'dialectal' perspective on the language of the Ṛgveda

1. As is well known, Avestan and Vedic are so close that expressions of the Avesta can often be transposed, phoneme by phoneme and word by word, to Vedic and yield there perfectly understandable statements. As to be expected and as I have shown in a paper presented at the Seventh International Vedic Workshop in Dubrovnik (Houben 2019), it is often equally possible, although this is rarely done, to transpose a Vedic verse into Avestan, esp. Gatha-Avestan, which is the oldest of the accessible Old Iranian languages (Beekes 1988; Hoffmann & Forssman 1996). Even inscriptional Old Persian can be transposed and translated relatively easily into Sanskrit, as shown in detail some time ago by D.C. Sircar in the first section of his *Select inscriptions bearing on Indian history and civilization* (Sircar 1965).

Since early Prakrit and classical Sanskrit are both relatively close to Vedic, it should also be possible to transpose Vedic expressions to these two languages and vice versa. Through Vedic commentaries such as that of Sāyaṇa we are, in fact, already familiar with a reading of Vedic through the lens of classical Sanskrit: verbal forms such as the subjunctive are there systematically explained in terms of verbal categories that are current in classical Sanskrit, in the case of the subjunctive usually, according to the context, the imperative (for instance, *ā́ ... vakṣati* in ṚV 1.1.2 explained as *āvahatu*) or the indicative (for instance, *aśnavat* in ṚV 1.1.3 explained as *prāpnoti*).

In the case of a considerable part of the language a precise transposition, phoneme by phoneme, and word by word, is possible. However, in the case of the Vedic verb this cannot work when a formal 'grammeme' available in the Vedic verbal system is simply absent in classical Sanskrit or even in Pāṇinian Sanskrit, or in early Prakrits or in Avestan as representative of early Old Persian. And even if formally the same 'grammeme' is available, its value is different if other 'grammemes' in the system are absent (the Vedic subjunctive in classical Sanskrit) or of limited use (the aorist in classical Sanskrit) or precisely of extended use (the future in classical Sanskrit).

2. In order to deal with these and similar problems adequately, it is necessary to develop a theory of systems of interrelated verbal 'grammemes' (e.g., Elizarenkova 1995[1]): well-defined units of syntactic meaning which are very different from the units of lexical meaning we are familiar with (meanings of nouns, verbs, adverbs, particles and prepositions), and also different from well-known syntactic-semantic units of meaning such as 'subject' or 'agent' and 'object', etc. We will here, however, not try to describe their value but to explore to which extent they directly match in closely related Indo-Iranian languages and dialects. As I observed in a recent article, "from 1000 BCE to 1000 CE, Old (and Middle) Persian, Avestan, Vedic, Middle Indo-Aryan and classical Sanskrit evolved within a large area of Indo-Iranian dialect continuity (Meillet 1908: 24-30)." In the same article – Jan Houben 2018: "Linguistic Paradox and Diglossia ... " ... *De Gruyter Open*

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[1] Elizarenkova 1995, p. 153 : here Elizarenkova announces a discussion not only of "a syntax of forms," but also of a "semantics of grammatical categories and individual grammemes."; the entire "Morphology" chapter contains numerous references to what Elizarenkova identifies as 'grammemes', for instance, on p. 196, "grammemes of the oblique moods, such as the subjunctive," "preterital grammemes," "modal grammeme."

Linguistics, *OPLI*, vol. 4, issue 1: 1-18 – I emphasized that this evolution was "from 'linguistic area' to 'linguistic area' " and that hence the metaphore of a "tree" of genetically related languages is inadequate.

In order to appreciate the synchronic value of Vedic sentences it should then be more useful to study the Veda not only through a translation into a modern language or, with Sāyaṇa, from the perspective of classical Sanskrit which is a much later form of the language, but also from the perspective of chronologically closer languages and dialects: early Prakrit (ancient Middle Indo-Aryan), and even Avestan and Old Persian.

4. Even a reading of the Veda according to Pāṇini, the ancient grammarian of the fourth century B.C.E., amounts to a dialectal perspective on the Veda, in our case the Ṛgveda. Pāṇini did take Vedic forms into account, but not all verbal categories are distinctly accounted for. Starting from all formal possibilities available for the Vedic finite verb, we will therefore map these with the realization of verbal forms in the other closely related languages or dialectal registers in a set of schemes that I have designed and found to be useful in the course of several decades of teaching Vedic and Sanskrit. Schemes dealing with the formally possible categories of Sanskritic finite verbs and their distinctive realization in Vedic and in classical Sanskrit have been proposed earlier in a brief but important article by Leonid Kulikov (2008). In my schemes I have extended this analysis to the language described by Pāṇini, early Prakrits and Avestan as earliest representative of Old-Persian.

This approach will demonstrate not only *that* the richest realization of formal possibilities is found in the Vedic verbal system and, next, in the verbal system of the Avesta – this we already know since long – but also *how much* and precisely *where* this realization differs in Pāṇini's understanding of the verb in the Veda and in other languages and dialects: which Vedic verbal "grammemes" are, at least formally, "evergreen" until the time of classical Sanskrit, which verbal categories remain elsewhere or everywhere empty, which "grammemes" seem to be in competition, which developments can be seen over time.

Finally, after having widened our view to include all these more or less synchronic 'dialectal' variations that surround the Vedic language, we go back to the language described by Pāṇini – who is usually studied from a much narrower perspective – and ask what this exploration may tell us about Pāṇini's familiarity or non-familiarity with, or interest or disinterest in, various Vedic texts.

5. The first two schemes, Tables IA and IB, deal with the categories of finite verbal forms in two distinct stages of Sanskritic language: Vedic and classical Sanskrit. The first scheme, Table IA, provides the linguistic names of the forms such as the imperative of the aorist, subjunctive of the perfect, etc. The second scheme, Table IB, provides examples for these categories. In both schemes the vertical axis gives four possible stems for the finite verbal forms: present stem, aorist stem, perfect stem and future stem, whereas the horizontal axis gives seven sets of applicable verbal endings and augment or modal affix plus endings: primary endings, etc. This provides a total of 28 categories. The categories that are put within bold borderlines are the ones which are realized in the Vedic verbal system and continue to the be realized in classical Sanskrit as well. The categories which are outside the areas within bold lines are those that are exclusively realized in Vedic, or, in the case of only two categories, indicated by a big X, they represent formal possibilities which are never realized in either Vedic or classical Sanskrit. Further distinctions are well-

established and are indicated in these schemes through colours: categories whose square is entirely orange, are about to disappear completely as usable categories in the language: this applies to the subjunctive of the present. Categories where only the name of the form is highlighted in orange are either not disappearing completely (if they are within the areas surrounded by bold lines) or they were already very rare in the Vedic language (if they are outside the areas surrounded by bold lines). On the other hand, categories in green are upcoming categories that are still of limited use in Vedic but frequently used in classical Sanskrit. Categories where only the names are highlighed in green are upcoming but remain relatively rare. Categories where the names are highlighted in pink are in some sense strange, rare and exceptional, and forms that can be categorized there are perhaps experimental or erroneous (for instance, with a single occurrence in the epics), or they are to be categorized differently or they are transitional forms between categories (a perfect stem with a primary ending, the perfect stem apparently reinterpreted as a present stem). Apart from the rare future and rare conditional which do have some existence in Vedic, the augmentless conditional and the other extremely rare forms based on the future stem are absent from Vedic. Hence, for Vedic language, 22 out of the 28 categories are represented by actually occurring forms, sometimes of disputed morphology and interpretation. For classical Sanskrit, altogether only 11 categories remain fully valid, even if some of the categories such as the aorist and the aorist injunctive have become relatively rare.

6. Table IIa, entitled "PĀṆINI and the Verbal System of the Vedic Language and of (classical) Sanskrit," takes the same scheme of finite verbal forms that is represented in Tables Ia and Ib, and reframes it from the perspective of Pāṇini's grammar. What was referred to as "primary endings" in the first two tables, is here, in addition, referred to as the endings *lAṬ* and *lṚṬ*, in accordance with Pāṇini's system of ten *la-kāras*. What are these la-kāras? We may here refer to the relevant lemma in J.A.F. Roodbergen's Dictionary of Pāṇinian Grammatical Terminology (Roodbergen 2008), p. 354:

> *lakāra* 'the letter l'. Designation of groups of finite verb endings as listed by [AA] 3.4.78 and their substitutions. D[i]vided according to tenses and moods with the help of the anubandhas Ṭ and Ṅ, as follows: lAṬ, present tense [AA] 3.2.123; lIṬ, pf., [AA] 3.2.115; lUṬ, periphrastic fut. [AA] 3.3.15; lEṬ, Vedic subjunctive, [AA] 3.4.7-8; lOṬ, imp., [AA] 3.3.162; lṚṬ, fut., [AA] 3.3.13; lAṄ, ipf. [AA] 3.2.111; lIṄ, opt. [AA] 3.3.161, 173; lUṄ, aor., [AA] 3.2.110; lṚṄ, conditional, [AA] 3.3.139. The distinction beween Ṭit-lakāras and Ṅit-lakāras is based on [AA] 3.4.79 for the first and on [AA] 3.4.99-100 for the second. The distinction is made on purely formal ground.

As we show in Table IIb, Pāṇini "handles" all categories with one series of ten *lakāras*, but through the use of the tag-phonemes (*anubandha*) Ṭ versus Ṅ the use of the primary set of endings (or the special sets of endings for the perfect and imperative) versus the secondary endings is indicated. In addition, the vowels correspond systematically to the characteristics of the verbal stem, for instance, both *lakāras* which have the -a- vowel before the tag-phoneme have the present stem according to one of the 10 present conjugations, etc. Even then, Vedic forms such as the perfect subjunctive, rare after the Ṛgveda, remain below the radar of Pāṇini's system, as demonstrated and analysed in detail by Palsule (1978). Apparently, Pāṇini did not see it as his task to deal extensively with these forms, but focused on later, post-Ṛgvedic forms of the language, even if a large part of the Ṛgveda is taken care of on account of the linguistic continuity with the later language.

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From the perspective of our scheme of 28 possible categories, Pāṇini fully recognizes the same 11 categories of finite verbal forms of classical Sanskrit, plus, as no. 12, the Vedic subjunctive. The augmentless conditional does not appear in his grammar as a separate category but as a variation of the augmented conditional.

7. Although we have Pāṇini's remarkable grammatical description, we have only rough indications of the language or dialects or registers which formed the object of his description. In 1886 Bruno Liebich demonstrated in some detail that, as far as the rules for the syntactic use of cases are concerned, Pāṇini's grammar corresponds quite well with the use of cases as found in the Aitareya-Brāhmaṇa. Even then, there were some problematic cases as well. The matter has recently again been discussed by Johannes Bronkhorst (2007). In fact, no definitive conclusion can be drawn either from the many positive correspondences or from a few expressions which do not fit : this was argued by R.O. Franke in 1890 who demonstrated that remarkable correspondences for Pāṇini's rule were also found in Pāli. This concerned, again, the syntactic use of nominal cases. Since Franke's investigation, further confirmations have been found where Pāṇini's grammar clarifies in a remarkable way not only Pāli syntax but also several rare lexical forms (for instance, von Hinüber 20). All these findings are in harmony with the original dialectal closeness of what we distinguish as entirely different, once at least partly colloquial but at present purely literary, languages, which, it is true, underwent distinctive developments during their transmission, initially in oral modes and later within an extensive Indian manuscript culture (Houben & Rath 2012). In this long process of transmission, the texts were subjected both to "sanskritizing" and "palisation" influences, even from the time of their existence as mainly orally transmitted texts onwards, since the surrounding language forms represented first of all sociolects rather than geographic dialects. This is evident from the use of various alternative forms to signify 'he or she or it is', *hoti*, *bhoti* and *bhavati*, in the Aśokan edicts, on which, of course, we should not impose our modern distinctions such as 'Prakrit' and 'Sanskrit'. Hence, I did not filter away *bhavati* from the examples of the present tense (present stem plus primary endings) since the form does occur in Aśokan inscriptions, next to *hoti* and *bhoti*. Remarkable correspondences between Pāṇini and Pāli or early Prakritic usage are accordingly, and not very surprisingly in the light of our earlier study (Houben 2018), found, syntactically and lexically. However, one specific domain of syntax is rather characterised by significant discrepancies : that of the verbal system. In order to estimate or measure this discrepancy, it is useful to have a look at the system of Pāli and early Prakrit finite verb forms from the perspective of Vedic and Pāṇinian grammar. Precisely which categories of the old verbal system show continuities and which are modified or disappear becomes clear in Table III. Out of the 28 possible categories of finite verbal forms, of which 22 are realized in Vedic and 11 in classical Sanskrit, the early Prakrits and Pāli still have representatives, sometimes quite rare ones, for 9 categories (including the rare and 'innovative' optative of the future).

That the early Prakrits and Pali had their own development is apparent from the fact that, as indicated in the table, they chose the aorist rather than the imperfect as the main representative of the preterite, i.e., past tenses : "The preterite replaced the (OIA) aorist, imperfect and perfect... The core of this tense is the (OIA) aorist, historical forms of the imperfect and perfect were integrated into its paradigms..." (Oberlies 2001: 228).

The injunctive which had an independent status in the Ṛgveda,[2] is represented in Tables Ia-Ib and IIa in a column of three categories, of which only two, the aorist injunctive and the imperfect injunctive, retain a trace in classical Sanskrit in connection with the prohibitive particle *mā́*. In the early Prakrits and in Pāli, however, these categories collapse with their left-hand neighbors as they can no longer be regarded as separate, either formally or as grammemes : on the one hand, *mā* is construed both with non-augmented and augmented past tense forms (Oberlies 2001 : 242 note 1); on the other hand, the augment is not obligatory for all past tense forms (Oberlies 2001 : 242). The rare perfect injunctive had already gone out of use after the Ṛgveda. The conditional is represented in Pali, but since the augment appears in several cases to be optional in other traditionally augmented forms, there is no basis to maintain a special category for the augmentless conditional.

8. Taking all 28 possible combinations of endings and stems of Vedic finite verb forms as starting point – where only 22 are realized in Vedic, and only 11, within bold borderlines, are valid in classical Sanskrit – Avestan has representatives for 18 categories, mostly parallel with all major categories of the Vedic finite verb. Tables IVa and IVb are based on the grammars of Reichelt (1908), Beekes (1988), and Hoffmann & Forssman (1996) and are meant for further explorations of the remarkable closeness, but also the numerous detailed differences, between the Vedic verbal system and the Avestan verbal system. Just like Vedic, for instance, Avestan has almost no room for the future stem apart from the poorly represented first category of future stem plus primary endings, with a future stem of which it is uncertain whether it should actually be regarded as such (). Some of these further explorations are planned to appear as comparative studies of the Veda and Avesta.

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[2] This was demonstrated in detail by Karl Hoffman in 1967.

Table IA: Verbal System (finite forms) of the Vedic Language and of (classical) Sanskrit

conjugation system (affixes,end.) ⇨ _____ stem ⇩	1. primary endings : -ti, -te	2. augment+ sec. endings : á- ... -t, á- ... –ta	3. secondary endings : -t, -ta	4. imperative endings : -tu, -tām	5. modal affix -a- + subj. endings : -a-t/-ti, -a-te/ -tai	6. modal affix -ī-/-yā- + sec. endings : -yā-t / -et, -ī- ta/-eta	7. perfect endings : -a, -e
1. PRESENT	Present	Imperfect	Injunctive (of present)	Imperative (of present)	Subjunctive (of present)	Optative (of present)	(Stative ; only 3ᵉ sg./ pl. med.)
2. AORIST	(aor. stem with prim. endings)	Aorist	Injunctive of aorist	Imperative of aorist	Subjunctive of aorist	Optative of aorist (with precative)	X
3. PERFECT	Perfect with primary end. [« of present »]	Plus-quam-perfect	Injunctive of perfect	Imperative of perfect	Subjunctive of perfect	Optative of perfect	Perfect
3. FUTURE	Future	Conditional	Conditional without augm.	Imperative of future (in epics !)	Subjunctive of future	Optative of future	X

outside the system: peripbrastic future, peripbrastic perfect, etc.

Table IB: Verbal System of the Vedic Language and of (classical) Sanskrit: some examples

conjugation system (affixes,end.) ⇨ _____ stem ⇩	1. primary endings : *-ti, -te*	2. augment+ sec. endings : *á- ... -t*, *á- ... –ta*	3. secondary endings : *-t, -ta*	4. sec. endings of imperative : *-tu, -tām*	5. affixe modal *-a-* + dés. du subjonctif : *-a-t/-ti, -a-te/ -tai*	6. modal affix *-ī-/-yā-* + sec. endings : *-yā-t / -et, -ī- ta/-eta*	7. désinences du parfait : *-a, -e*
1. PRESENT	Present *tára-ti, tára-te*	Imperfect *á-tara-t*	Injunctive (of present) (*mā́*) *tára-t*	Imperative (of present) *tira-ntu*	Subj. (of present) *tirā-te*	Optative (of present) *tare-t*	(Stative ; only 3ᵉ sg./ pl. med.) *hinv-é*
2. AORIST	(aor. stem with prim. endings, *ga-thá*)	Aorist *á-sthā-t, á-sthi-ta*	Injunctive of aorist (*mā́*) *sthá-t*	Imperative of aoriste *kr̥-ṣvá*	Subjonctif de l'aoriste *kar-a-si*	Optative of aorist (with precative) *bhū-yā-t* (*bhū-yā́-ḥ*)	X
3. PERFECT	pf. stem with primary end. *jāgár-ti*	Plus-quam-perfect *a-mumuk-tam*	Injunctive of perfect *susro-t*	Imperative of perfect *mumók-tu*	Subjonctif du parfait *múmoc-a-ti*	Optative of perfect *jagam-yā́-t*	Perfect *vavárt-a vāvr̥dh-é*
4. FUTURE	Future *kariṣyá-ti kariṣyá-te*	Conditional *á-bhariṣya-t*	Conditional without augm.	Imperative of future (in epics !)	Subjunctive of future	Optative of future	X

outside the system: periphrastic future, periphrastic perfect, etc.

Table IIa: PĀṆINI and the Verbal System of the Vedic Language and of (classical) Sanskrit

Pāṇini:	ℓ A Ṭ ℓ Ṛ Ṭ ---------- ℓ U Ṭ	ℓ A Ṅ ℓ U Ṅ ℓ Ṛ Ṅ		ℓ O Ṭ	ℓ E Ṭ	ℓ I Ṅ + āśīr- ℓ I Ṅ	ℓ I Ṭ
conjugation system (affixes,end.) ⇨ _____ **stem** ⇩	1. primary endings : -ti, -te	2. augment+ sec. endings : á- ... -t, á- ... –ta	<=3. secondary endings : -t, -ta	4. imperative endings : -tu, -tām	5. modal affix -a- + subj. endings : -a-t/-ti, -a-te/ -tai	6. modal affix -ī-/-yā- dés. secondaires : -yā-t / -et, -ī- ta/-eta	7. endings of the perfect : -a, -e
1. PRESENT	Present ℓ A Ṭ	Imperfect ℓ A Ṅ	Injunctive (of present)	Imperative (of present) ℓ O Ṭ	Subj. (of present) ℓ E Ṭ	Optative (of present) ℓ I Ṅ	(Stative ; only 3ᵉ sg./ pl. med.)
2. AORIST	X	Aorist ℓ U Ṅ	Injunctive of aorist	Imperative of aorist	Subjunctive of aorist	Optative of aorist (with préc. ā- ℓ I Ṅ)	X
3. PERFECT	X "perf" stem with primary endings	Plus-quam-perfect	Injunctive of perfect	Imperative of perfect	Subjunctive of perfect	Optative of perfect	Perfect ℓ I Ṭ
4. FUTURE	S-future ℓ Ṛ Ṭ	Conditional ℓ Ṛ Ṅ	<=Conditional without augment	Imperative of future (in epics !)	Subjunctive of future	Optative of future	X

outside the system: ℓ U Ṭ periphrastic future (other periphrastic forms allowed)

Table IIb: Pāṇini, the 10 *la-kāras*, and modern grammatical analysis

Pāṇini : the 10 *la-kāra*s, apparently referring only to sets of endings...

From Pāṇini to modern grammatical understanding of the verbal system: the 10 *la-kāra*s and their implications for the verbal stem

Ṭ^IT endings   **Ṅ^IT endings**

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l **A Ṭ** (present)	*l* **A Ṅ** (imperfect)	*l* +A+Ṭ/Ṅ:	**A**: present stem (10 classes) + Ṭ: primary / Ṅ: sec. end. (+ augm.)
l **I Ṭ** (perfect)	*l* **I Ṅ** (optative)	*l* +I+Ṭ/Ṅ:	**I**: root+red./stem+ī/yā + Ṭ: perfect endings. / Ṅ: sec. endings.
l **U Ṭ** (periphr. fut.)	*l* **U Ṅ** (aorist)	*l* +U+Ṭ/Ṅ:	**U**: guṇa root+-tā+as//guṇa/s/iṣ/siṣ/red./ + Ṭ: prim. / Ṅ: sec. endings
l **Ṛ Ṭ** (s-future)	*l* **Ṛ Ṅ** (conditional)	*l* +Ṛ+Ṭ/Ṅ:	**Ṛ**: guṇa root+(i)sya + Ṭ: primary / Ṅ: sec. endings
l **E Ṭ** (subjunctive)		*l* +E+Ṭ:	**E**: stem+a + Ṭ: primary/sec. endings.
l **O Ṭ** (imperative)		*l* +O+Ṭ:	**O**: stem + Ṭ: imperative endings

Ṭ^IT endings   the set of primary endings, or the sets of special endings for perfect or imperative

Ṅ^IT endings   the set of secondary personal endings

In the course of the *prakriyā* 'progressive development' according to Pāṇini's rules of finite verb forms, the *lakāras* are substituted by primary endings, active and middle, enumerated together in AA 3.4.78 :

AA 3.4.78 tiptasjhisipthasthamibvasmastātāṁjhathāsāthāṁdhvamiḍvahimahiṅ //
the same linear enumeration, but arranged in a two-dimensional scheme, with, within each category, the sequence: singular-dual-plural:

	(our) 3rd person	2nd person	1st person
Active:	tiP-tas-jhi-	-siP-thas-tha-	-miP-vas-mas-
Middle:	-ta=ātām=jha-	-thās-āthām-dhvam-	-iṬ-vahi-mahiṄ //

AA 3.4.99ff define conditions for what modern grammar calls the secondary endings (appearing in the imperfect, etc.).

Table III: PĀṆINI and . . . early (Aśokan) Prakrits (and Pāli as reflection of early Prakrits)

Pāṇini:	ℓ A Ṭ ℓ Ṛ Ṭ ---------- ℓ U Ṭ	ℓ A Ṅ ℓ U Ṅ ℓ Ṛ Ṅ		ℓ O Ṭ	ℓ E Ṭ	ℓ I Ṅ + āśīr- ℓ I Ṅ	ℓ I Ṭ
conjugation system (affixes,end.) ⇨ _____ stem ⇩	1. primary endings : *-ti, -te*	2. +augment+ sec. endings : *á- ... -t,* *á- ... –ta*	(3. secondary endings : *-t, -ta*)	4. imperative endings : *-tu, -tām*	5. modal affix *-a-* + subj. endings : *-a-t/-ti, -a-te/* *-tai*	6. modal affix *-ī-/-yā-* + sec. endings : *-yā-t / -et, -ī-* *ta/-eta*	7. endings of the perfect : *-a, -e*
1. PRESENT	Present ℓ A Ṭ *ho-ti, bho-ti, bhava-ti*	(Imperfect, *āsīt*)	X	Imperative (of present) ℓ O Ṭ *ho-tu*	X	Optative (of present) ℓ I Ṅ *bhaveyyam, labhe*	X
2. AORIST	X	Aorist ℓ U Ṅ *akaṁ, akaraṁ*	X	X	X	X	X
3. PERFECT	X "perf" stem with primary endings	X	X	X	X	X	Perfect, *āha*
4. FUTURE	s-future ℓ Ṛ Ṭ *karissāmi*	Conditional ℓ Ṛ Ṅ *agamissa*	X	X	X	Optative of fut. *ehijja, hañchema*	X

outside the system: ℓ U Ṭ periphrastic future; other periphrastic forms.

Table IVa: Verbal System of Avestan (the Ancient Persian Language as found in the Avesta)
(cp. Reichelt=Rt 1908, Beekes 1988, Hoffmann & Forssman = H&F 1996 2nd ed. 2004)

conjugation system (affixes,end.) ⇨ _____ stem ⇩	1. primary endings : -(i)ti, -(i)te	2. augment+ sec. endings : (á-) ... -t, (á-) ... -ta	<=3. secondary endings : -t, -ta	4. imperative endings : -tu, -tąm	5. modal affix *a- + subj. endings : -a-t/-(i)ti, -a-(i)te	6. modal affix *i̯ā-/*ī- + sec. endings	7. perfect endings : -a, -e
1. PRESENT	Present	Imperfect	Injunctive (of present)	Imperative (of present)	Subjunctive (of present)	Optative (of present)	(H&F p. 178: Stat. ... nicht voll ausgeb.)
2. AORIST	X	Aorist	Injunctive of aorist (?)	Imperative of aorist	Subjunctive of aorist	Optative of aorist (no precative)	X
3. PERFECT	X	(Plus-quam-perfect: Rt p. 126)	Injunctive of perfect	X	Subjunctive of perfect	Optative of perfect	Perfect
4. FUTURE	Future (H&F p. 189; Rt p. 109, XII. Klasse)	X	X	X	X	X	X

no periphrastic forms outside the system have been noted, but in M.P.: periphrastic forms with *kar-*.

Table IVb: Verbal System of Avestan (the Ancient Persian Language as found in the Avesta): some examples (cp. Reichelt=Rt 1908, Beekes 1988, Hoffmann & Forssman = H&F 1996 2nd ed. 2004)

conjugation system (affixes,end.) ⇨ _____ stem ⇓	1. primary endings : -(i)ti, -(i)te	2. augment+ sec. endings : (á-) ... -t, (á-) ... -ta	<=3. secondary endings : -t, -ta	4. imperative endings : -tu, -tąm	5. modal affix *a- + subj. endings : -a-t/-(i)ti, -a-(i)te	6. modal affix *i̯ā-/*ī- + sec. endings	7. perfect endings : -a, -e
1. PRESENT	Present *bauuaiti, hacaite*	Imperfect *abauuat, apərəsat, yazata*	Injunctive of present (?) *mraot*	Imperative (of present) *astū, həṇtū*	Subjunctive (of present) *mrauuaitī*	Optative (of present) *mruiiāt*	(H&F p. 178: Stat. ... nicht voll ausgeb.)
2. AORIST	X	Aorist (a-)*məhmaidī*	Injunctive of aorist (?)	Imperative of aorist *fərašuuā, xšə̄ṇtąm*	Subjunctive of aorist *baxšaitī*	Optative of aorist (no precative) *frazahīt* (?)	X
3. PERFECT	X	(Plus-quam-perfect: Rt p. 126)	Injunctive of perfect (?)	X	Subjunctive of perfect *vaorāzaθā*	Optative of perfect *jaɣmiiąm, vīdiiāt*	Perfect *āδa, å̄ŋha, jaɣāra, daiδe, daiθe*
4. FUTURE	Future (H&F p. 189; Rt p. 109, XII. Klasse)	X	X	X	X	X	X

no periphrastic forms outside the system have been noted, but in M.P.: periphrastic forms with *kar-*.

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