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Vowel Weakening in Tocharian A Preterite Participles and Abstract Nouns

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1. Vowel weakening in Tocharian A

1.1. One of the most important phonological developments in the prehistory of Tocharian A is variously known as vocalic “balance” (TE I:45-7, Adams (1988:28-9), Pinault (1989:45)), syncope (Winter (1994a)), or vowel weakening. This sound change consists of two steps:

1. First, pre-TA *ā (< PT *a) in the second syllable was raised to *a when the first syllable contained a “full vowel”, i.e. pre-TA *a or *ā (including the diphthongs *ay, *aw and *āy, *āw, if these had not already become *e, *o; see fn. 2).
2. A subsequent change raised *a to *ä in the second syllable under certain conditions, to be discussed below. This raising affected both pre-TA *a < PT *ē, *e, *o and pre-TA *a < *ā by the first raising.

Aside from late borrowings (mostly from Sanskrit and Prakrit) such as *āsām* ‘seat, throne’, *āšām* ‘worthy’,¹ most exceptions are due to later sound changes which obscured the original conditioning environment, particularly syncope of *ä in open syllables; see §4 for examples.

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Abbreviations: adj(ective), adv(erb), n(oun), poss(essive); sg.=singular, du(al), pl(ural); m., masc.=masculine, f., fem.=feminine; nom(inative), acc(usative), obl(ique), instr(umental), perl(ative), all(ative), comit(ative), abl(ative), loc(ative); pres(ent), impf.=imperfect, subj(unctive), opt(ative), pret(erite), mid(dle), ptcp.=participle, ger(undive), inf(initive), v.n.=verbal noun; Av(estan), Bact(rian), G(āθā), Gr(eek), Khot(anese), MIA=Middle Indo-Aryan, Mlr.=Middle Iranian, OIA=Old Indo-Aryan, OIr.=Old Iranian, PIE=Proto-Indo-European, PT=Proto-Tocharian, Sogd(ian), T(ocharian) A/B, Ved(ic).

¹See Winter (1961:276), Isebaert (1980:15-41) and passim. Pace Schwartz (1974:405-7), such loanwords tell us nothing about the vocalism of the Iranian or Indo-Aryan source. In general, loanwords of PT date incorporate foreign *a and *ā as PT *a, which then regularly becomes pre-TA *ā > TA *ā* or *a* (by weakening) and TB /a/, realized as *ā* (stressed) or *a* (unstressed); exceptions are due to borrowing between the two languages or to learned (Sanskrit) spellings. For examples and discussion, see Isebaert (1980, especially pp. 15ff.,

The first stage of vowel weakening is accepted by all scholars of Tocharian, and is responsible for the twofold treatment of morphemes such as Class VI present *-nā- or Class V subjunctive and Class I preterite *-ā-:

Class VI present	3sg. <i>kārnaṣ</i> < *kārpnāṣ to <i>kārpa-</i> ‘go down’ <i>kotnaṣ</i> < *kotnāṣ to <i>kota-</i> ‘split’
but	<i>kārsnāṣ</i> to <i>kārsnā-</i> ‘know’ <i>tārnāṣ</i> to <i>tārkā-</i> ‘let go, release; utter’
Class V subjunctive	mid. 3sg. <i>ārtatār</i> < *ārtātār to <i>ārta-</i> ‘praise’ 3sg. <i>kalkaṣ</i> < *kalkāṣ to <i>kālkā-</i> ‘go’
but	2pl. <i>kālkāc</i> , abstr. <i>kālkālune</i>
Class I preterite	2sg. <i>tākaṣt</i> < *tākāṣt to <i>tāka-</i> ‘be’ mid. 3sg. <i>pekat</i> < *pekāt to <i>peka-</i> ‘write’
but	2sg. <i>kālkāṣt</i> to <i>kālkā-</i> ‘go’ mid. 3sg. <i>kālpāt</i> to <i>kālpā-</i> ‘attain’

In contrast, the precise conditions for the second stage of vowel raising have not yet been fully clarified; cf. the discussions in TE I:46-7, Van Windekens (1976:15), Adams (1988:28-9). The alternations below clearly demonstrate that apocope of PT word-final vowels must have already taken place at the time of weakening of *a > *ä — in other words, that apocope “bled” the second stage of weakening.

<i>eṣant</i> ‘giving’	pl. obl. <i>eṣāntās</i> < *eṣant-ās
<i>pekant</i> ‘writing’	obl. <i>pekāntām</i> < *pekant-ān
pl. obl. <i>kamas</i> ‘teeth’	pl. loc. <i>kamsam</i> < *kamas-an
<i>āknats</i> ‘ignorant’ < *āknāt ^s	pl. <i>ākntsāñ</i> < *āknāt ^s -āñ
<i>ṣāmam</i> ‘monk’ < *ṣāmān	pl. <i>ṣāmnāñ</i> < *ṣāmān-āñ

To account for this pattern, Winter (1994a:451ff.) restricts weakening to TA forms of at least four underlying syllables. Yet as observed by Jasanoff (1987:110fn.42), *ä — or in Winter’s notation, *i — was no longer phonemic in TA: the relatively late pre-TA changes of 1) epenthesis of *ä in consonant clusters and 2) syncope of *ä in all open syllables had made its occurrence fully predictable in all environments, and so eliminated it as a contrastive segment. Forms such as *eṣāntās* or *ākntsāñ* are thus underlyingly trisyllabic /eṣant-ās/, /āknāt^s-āñ/.

202-5), (1981) and also Schmidt (1997); the latter emphasizes that there is no persuasive evidence for phonemic vowel length in either Tocharian language. Following them and other specialists (e.g. Adams, Pinault, Ringe), I assume that the phonetic value of the Tocharian vowels was *ā* [a], *a* [ə], *ä* [i].

Furthermore, weakening of *a > *ä also occurs in forms which were trisyllabic already in PT, e.g. the 1sg. and 2sg. of Class IV presents. In these forms, as well as the present (middle) participle, the stem vowel *a < PT *o has been raised to *ä and undergone syncope. All other forms had endings containing pre-TA *ä, so the stem vowel *a was preserved as TA *a*. Compare the paradigm of the Class IV present *yata-* ‘be able’ < PT *yot-o- (TB *yoto-*) with that of the Class III present *mäska-* ‘be (in a place)’ < PT *mäsk-e- (TB *mäske-*), in which no weakening took place after *ä in the initial syllable.

	Class III	Class IV	
1sg.	<i>mäskamār*</i>	<i>yatmār</i>	< *yatamār
2	<i>mäskatār</i>	<i>yattār</i>	< *yatatār
3	<i>mäskatär</i>	<i>yatatär</i>	
1pl.	<i>mäskamt(t)är*</i>	<i>yatamt(t)är*</i>	
2	<i>mäskacär*</i>	<i>yatacär*</i>	
3	<i>mäskantär</i>	<i>yatantär*</i>	
ptcp.	<i>mäskamām</i>	<i>yatmām</i>	< *yatamām

We find a similar pattern in the Class I preterite middle, where word-final *-a (< PT *-ë) in the 3sg., 1pl., and 3pl. (and word-final *-ä < PT *-ə in the 2pl.) was regularly lost by apocope, but the diphthong *-äy in the third syllable of the 2sg. remained and became TA *-e*. In the pret. mid. 2sg. of roots containing a “full vowel”, suffixal *-ä- was raised to *a, then to *ä and syncopated, e.g. PT *krawpatay ‘you gathered (for yourself)’ > pre-TA *krāwpātāy > *kropate > *kropäte > TA *kropte*.

1sg.	<i>krope</i>		< PT *krawp-ay
2	<i>kropte</i>	< *kropate	< PT *krawp-a-tay
3	<i>kropat</i>		< PT *krawp-a-të
1pl.	<i>kropamät*</i>		< PT *krawp-a-mätë
2	<i>kropac*</i>		<— PT *krawp-a-tə?
3	<i>kropant</i>		< PT *krawp-a-ntë

It thus appears that pre-TA *a in the second syllable was raised to *ä if the first syllable contained *a, *ā, *e, or *o and the third syllable also contained pre-TA *a, *ā, *e, or *o — but not if the vowel of the third syllable was *ä, or had previously been lost by apocope.²

²Pace Winter (1994a:411-3), forms such as *pāpeku* ‘(having) written’, *kākropu* ‘(having) gathered’ < PT *papaikawə, *kakraupawə (TB *papāikau*, *kakráupau*) show that monophthongization of PT *Vy, *Vw > *e, *o must have preceded raising of *a > *ä (Ringe (2000:123-4fn.9)). Winter (1994b:298) postulates a contrast between underlying /ay/, /aw/ and /āy/, /āw/ in TA, but the only forms which support this analysis are the hapax *kākrupu* (A353 b3), which must be an error beside frequently attested *kākropu*, and *kaklyušu* ‘(having) heard’, which could be an archaism preserving the full-grade of PIE *k̑lew-s^e/o- (cf. Ved. 3pl. *śróṣan* ‘obey’; replaced elsewhere by PT *klyews- > TB /klyews-/, TA *klyos-*). On the other hand, the

1.2. What if the third syllable contained pre-TA tautosyllabic *äy or *äw, phonetically *[i] resp. *[u]? Van Windekens (1976:15) and Winter (1994a:402ff.) place no restrictions on the vocalism of the third syllable, but Krause and Thomas (TE I:46-7) specifically exclude *i* from the environment for weakening, citing *kapšāni* ‘body’ (< *kēkšēñäyë or sim.; TB *kektseñe*), *tāpaki* ‘mirror’ (< PT *tapakäyë; TB *tapākye*).³ Especially important in this connection are denominal adjectives in *-ši* < PT *-šäyë (TB *-šše*), many of which continue their PT preforms faithfully:

šolši < PT *šaulə-šäyë (TB *šaulá-šše*), to *šol* ‘life’ < PT *šaulə (TB *šaul*);
yukaši < PT *yək^{wë}-šäyë (cf. TB *yäkwe-ññe*), to *yuk* ‘horse’ < PT *yək^{wë} (TB *yäkwe*);
käntwāši < PT *kəntwa-šäyë (TB *käntwā-šše*), to *käntu* ‘tongue’ < PT *kəntw-o, *-a (TB *kántwo*, obl. *kántwa*);
arkämnāši < PT *ērķemna-šäyë, to pl. *ērķemna ‘cemetery’ (TB *erķemna*; sg. *erķau*);
cmolwāši <— PT *cəméla-šäyë (TB *cméla-šše*), to pl. *cmolu* ‘(re)births’ < *cəmol-wā <— PT *cəméla (TB *cméla*; sg. TB *cāmel*, TA *cmol*).

Once the original stem vowel had been lost in absolute final position — i.e., the contrast among the different stem types had been eliminated in the nominative (and oblique) singular — what had been a single suffix *-šäya (< PT *-šäyë) now appeared to speakers as a lexically arbitrary choice among *-ä-šäy, *-a-šäy, and *-ā-šäy. This situation naturally led to confusion and reanalysis of many nominal stems; in particular, while feminine and plural nouns usually retained their stem-final *-ā- (< PT *-a-), stems ending in *-ä- < PT *-ə- were often reanalyzed as having a stem vowel *-a- (as if from PT *-ë-, i.e. old thematic stems), and vice versa:⁴

štām-aši for (*)*štām-ši* < PT *stamə-šäyë (TB *stamá-šše*), to *štām* ‘tree’ < PT *stamə (TB *stām*);
sey-aši for **se-ši* < PT *soyə-šäyë (TB *soyá-šše*), to *se* ‘son’ < PT *soyə (TB *soy*);
wr-aši beside *wär-ši* < PT *wərə-šäyë, to *wär* ‘water’ < PT *wərə (TB *war*); and conversely

relative chronology of monophthongization and the first stage of weakening (*ā > *a) is not clear; e.g., either PT *papaikawə > *pāpāykāwä > *pāpekāw (monophthongization precedes and bleeds weakening) or PT *papaikawə > *pāpaykāw > *pāpekāw (weakening, then monophthongization) would have given TA *pāpeku*. (On the ending *-u*, see §2.2.)

³Similarly Pinault (1989:45) and Schmidt (1997:19-20), but without offering examples before *i*. Adams (1988:29) cites *tāka-ñi* ‘there was to me, I had’ < *tākāñäy < PT *taka-, but this could always be analogical to *tāka-m*, *tāka-m* < *tākān, *tākām < PT *taka-në, *taka-më (TB *takā-ne*, *takā-me*), with the 3sg. and 1-3pl. personal suffixes.

⁴See SSS:22-6, Van Windekens (1980:133-7) for a list of forms. Krause and Thomas are therefore not entirely correct when they describe the stem formation of TA adjs. in *-ši* and *-s(s)u* as “[e]in scheinbar regelloser Nebeneinander” (TE I:47).

pāk-ši for **pāk-aši* < PT **pakë-şəyë* (TB *paké-şşe*), to *pāk* ‘part’ < PT **pakë* (TB *pāke*).⁵

Unfortunately, few TA adjs. in *-ši* contain the environment for weakening, but at least the following suggest that the second change of **a* > **ä* does not occur here:

kāw-aši < **kāwāşäy-* < PT **kawa-şəyë* (cf. TB *kawā-tstse*), to PT **kawa-* ‘desire’ (TB *kāwo*, obl. *kāwa*; cf. TB /*kawa-/*, TA *kāpā-* ‘desire’);
klop-aši < **klawpaşäy-* < PT **klVwpë-şəyë*, to *klop* ‘suffering’ < PT **klVwpë* (cf. pl. *klop-ant* < PT **klVwpë-nta*).

A similar situation obtains for adjectives in TA *-su*, although the evidence is not as plentiful: e.g., we find *spaltkasu* < **spaltkasāw* < PT **spëltkë-səw* (TB *spelk(k)essu*) to *spaltäk* ‘effort’ < PT **spëltkë* (TB *speltke*, *spelk(k)e*), without weakening of the stem vowel **a* > **ä*.⁶ It seems, then, that **äy* and **āw* in the third syllable must be excluded from the conditioning environment for weakening of second-syllable pre-TA **a* > **ä*.

On the other hand, **āw* = *[*u*] seems to cause weakening in two important categories of forms, preterite participles in *-u* and verbal nouns in *-une*. Thus in TA reduplicated preterite participles to verbal roots in *ā* (< pre-TA **ā* < PT **a*) or *a* (< pre-TA **a* < PT **ë*, **e*, **o*), the root vowel in the second syllable is always *-Ø- ~ -ä-*.

⁵See also Winter (1994a:409), although I cannot follow his hypothesis that forms such as *štāmaši*, *seyashi* acquired a “connecting” vowel *-a-* specifically in these derivatives (which he terms “secondary marking of bound stems”). Rather, it appears that TA had begun to generalize the allomorph *-aši* to adjs. which ended in **-ši* < PT **-ə-şəyë*, as well as **-āši* < PT **-a-şəyë* — cf.

śn-aši for **śn-āši* < PT **śəna-şəyë*, to *śām* ‘wife’ < PT **śəna-* (TB *śana*, obl. *śano*);
şñi-kāntw-aši ‘in one’s own tongue’ beside *kāntw-āši* < PT **kəntwa-şəyë* (see above)

— except for those formed to plurals, which retained *-āši* < PT **-a-şəyë* without exception (*arkāmnāši*, *cmolwāši*). Such variation and reanalysis among nominal stems following loss of surface contrasts (usually through apocope or syncope of stem vowels in certain pivotal case-number forms, especially the nom. and acc. sg.) are of course paralleled in dozens of Indo-European languages, but their consequences for the TA noun have never been systematically investigated.

⁶Similarly *pālskasu* < PT **pəlsko-səw* (TB *pālskossu*) to *pāltśäk* ‘thought’ < PT **pəlsko* (TB *pālsko*), where weakening would not have occurred. Cf. also *śolasu* ‘āyūşmant; venerable’ for **śolsu* < PT **śaulə-ssəw* (contrast TA *śolşi* above), if not simply influenced by more common *śolassu* <— TB *śaulassu*, with substitution of *o* for the TB diphthong *au*. On borrowing of TB *-ssu* into TA, see Winter (1961:277-8).

kākmū ‘(having) brought’ < *kākāmāw <— PT *kakamawə (TB *kakāmau*)
kākārpū ‘having gone down’ < *kākārpāw <— PT *kakar pawə (TB *kakārpau*)
pāp̄ṣu ‘(having) guarded’ < *pāpāṣāw < PT *papaṣṣəwə (TB *papāṣṣu*)

tatmu ‘born’ < *tatamāw < PT *tētēməwə (TB *tetemu*)
sasyu ‘(having) satisfied’ < *sasayāw < PT *sosoyəwə (TB *sosoyu*)

The logical inference is that *a was raised to *ä in the second syllable of a pre-TA form when the third syllable contained *[u], i.e. *äw.

Such a conclusion would disturb the symmetry of the vowel weakening rules, which otherwise distinguish neatly between the pre-TA “full vowels” and *ä, *äy, *äw — although that alone is not sufficient grounds for its rejection. However, a closer examination of the TA preterite participles within the context of their entire paradigms reveals an alternative explanation for the apparent vowel weakening before -u.

2. Preterite participles in Tocharian A

2.1. Following TE I:156-7, Tocharian preterite participles may be divided into four inflectional classes. Classes I and II are associated with consonant-final verb roots, i.e. those not ending in the vowel TB /-a-/, TA -ā-/a- (< PT *-a-).⁷ The few Class II participles occur only in TB, mostly to roots of the shape PT *Cəw-; best attested are *śeśu* ‘(having) eaten’ to /śəw(a)-/ ‘eat’,⁸ and unreduplicated *ltu* ‘having gone out’ to /lət-/ ‘go out’.⁹

⁷On *a-* vs. non-*a-*roots, see Ringe (1990:402-3) and Hackstein (1995:16ff., especially 16fn.3). That types I and II are formed to non-*a-*roots, and III and IV to *a-*roots, was first recognized by Cowgill (1984:1-2) in his review of Adams (1981): “...since types I and IV are oxytone and types II and III are barytone [here respectively I and III vs. II and IV — RIK], I would think it extremely likely that the differences between types I and II in verb stems not ending in PT *-a- and between types III and IV in verb stems that did end in PT *-a- are at least partly the result of different accent conditions.”

⁸Usually /śəwa-/, but cf. subjunctive 1sg. *śū* < PT *śəw-əw (Pinault (1994:165ff.)). Pinault’s hypothesis that 1sg. *śū* vs. 3sg. *śuwam* faithfully reflect the prevocalic resp. preconsonantal treatments of the root-final laryngeal in PIE *gyewH- (Pers. *jav-īdan* ‘eat’, OE *cēawan* ‘chew’) seems too good to be true.

⁹Other examples include *keku** ‘(having) poured’, *reru** ‘having roared’ (absol. *kekuwer*, *rerūwer-mem*) to /kəw-/ ‘pour’, /rəw-/ ‘roar’, and *plätku* ‘arisen, overflowing’ (e.g. in B231 a2 *pernerñesa plätkweṣne tuṣitāṣṣe wimāñne* ‘in the *tuṣita* palace, overflowing with splendor’) to /plətk-/ ‘arise, overflow’.

	TB	[TA] ¹⁰	PT
m. nom. sg.	<i>ltu</i>		*lət-ǫwə
m. nom. pl.	<i>ltuweş</i>		*lət-ǫwəşə
f. nom. sg.	<i>ltusa</i>		*lət-ǫwsa

All other consonant-final roots form preterite participles of Class I, with reduplication syllable *Cë- and stress on the root vowel in the second syllable. These are illustrated below with TB, TA *yāmu* ‘(having) done’, TB *kekamu*, TA *kakmu* ‘having come’, TB *tetemu*, TA *tatmu* ‘born’, and TB *nanāku*, TA *nānku* ‘(having) blamed’, respectively to TB /yam-/ , TA *yām-* ‘do, make’, TB /kəm-/ , TA *kum-* ~ *kām-* ‘come’, TB /təm-/ , TA *tām-* ‘be born’, and TB /nak-/ , TA *nāk-* ‘blame’.

	TB	TA	PT	pre-PT
m. nom. sg.	<i>yāmu</i>	<i>yāmu</i>	*yām-əwə	*yām-əwə
m. nom. pl.	<i>yāmoş</i>	<i>yāmuş</i>	*yām-oşə	*yām-əwəşə
f. nom. sg.	<i>yāmusa</i>	<i>yāmus</i>	*yām-əwsa	*yām-əwsa
m. nom. sg.	<i>kekamu</i>	<i>kakmu</i>	*k ^w ë-k ^w əm-əwə	*k ^w ë-k ^w əm-əwə
m. nom. pl.	<i>kekamoş</i>	<i>kakmuş</i>	*k ^w ë-k ^w əm-oşə	*k ^w ë-k ^w əm-əwəşə
f. nom. sg.	<i>kekamusa</i>	<i>kakmus</i>	*k ^w ë-k ^w əm-əwsa	*k ^w ë-k ^w əm-əwsa
m. nom. sg.	<i>tetemu</i>	<i>tatmu</i>	*të-tëm-əwə	*të-tëm-əwə
m. nom. pl.	<i>tetemoş</i>	<i>tatmuş</i>	*të-tëm-oşə	*të-tëm-əwəşə
f. nom. sg.	<i>tetemusa</i>	<i>tatmus</i>	*të-tëm-əwsa	*të-tëm-əwsa
m. nom. sg.	<i>nanāku</i>	<i>nānku</i>	*na-nak-əwə	*në-nak-əwə
m. nom. pl.	<i>nanākoş</i>	<i>nānkuş</i>	*na-nak-oşə	*në-nak-əwəşə
f. nom. sg.	<i>nanākusa</i>	<i>nānkus</i>	*na-nak-əwsa	*në-nak-əwsa

In contrast, verbs with roots ending in TB /-a-/, TA *-ā-/a-* (“*a*-verbs”) form preterite participles of Classes III and IV.¹¹ Class III participles are proper to *a*-verbs whose root vowel reflects PT *ə, *əy, or *əw (TB /ə/, /əy/, /əw/; TA *-ä-* ~ *-Ø-*, *-i-*, *-u-*); they are unreduplicated,¹² and take the endings PT nom. sg. *-owə, obl. sg./nom. pl. *-oşə, fem. *-owsa. On the other hand, Class IV participles are built to *a*-verbs with root vowel PT *a, *ay, *aw (TB /a/, /ai/, /au/;

¹⁰The corresponding TA participle shows the variants *lalntu*, *laltu*, and *lantu*. PT *lət-ǫwə was remodeled with reduplication as *la-lät-äwä > *laltu*; this was further remade with the pres./subj. stem *länt-* as *lalntu* (1x, A239 b3), and the consonant cluster was simplified in *lantu*. For a different interpretation, see Winter (1994b:299, 303).

¹¹The numbering adopted here is that of Guðrún Þórhallsdóttir (1988), rather than that of Adams (1981), Pinault (1989:107-10).

¹²Synchronically, that is; (pre-)PT may have had a reduplication syllable *Cə-, lost in both languages by syncope.

TA *-ā-, -e-, -o-*); they exhibit a reduplicating syllable PT **Ca-* (< **Cë-* by *a*-umlaut) and end in PT nom. sg. **-awə*, obl. sg./nom. pl. **-aʃə*, fem. **-awsa*. These two types are illustrated below with TB *tärkau* (MQ also *tärko_u*), TA *tärko* ‘(having) let go, uttered’ to TB */tərka-/*, TA *tärkā-* ‘let go, release; utter’; and TB *kakāmau*, TA *kākmu* ‘(having) carried’ to TB */kama-/*, TA *kām(ā)-*, suppletive preterite root of TB */pər-/*, TA *pär-* ‘carry’.

	TB	TA	PT	pre-PT
m. nom. sg.	<i>tärkau, -o_u</i>	<i>tärko</i>	<i>*(tə-)tərk-o-wə</i>	<i>*(tə-)tərk-o-wə</i>
m. nom.pl.	<i>tärkoʃ</i>	<i>tärkoʃ</i>	<i>*(tə-)tərk-o-ʃə</i>	<i>*(tə-)tərk-o-wəʃə</i>
f. nom. sg.	<i>tärkausa</i>	<i>tärkos</i>	<i>*(tə-)tərk-o-wsa</i>	<i>*(tə-)tərk-o-wsa</i>
m. nom. sg.	<i>kakāmau</i>	<i>kākmu</i>	<i>*kakam-a-wə</i>	<i>*kë-kam-a-wə</i>
m. nom. pl.	<i>kakāmaʃ</i>	<i>kākmuʃ</i>	<i>*kakam-a-ʃə</i>	<i>*kë-kam-a-wəʃə</i>
f. nom. sg.	<i>kakāmausa</i>	<i>kākmuʃ</i>	<i>*kakam-a-wsa</i>	<i>*kë-kam-a-wsa</i>

2.2. Guðrún Þórhallsdóttir (1988) has convincingly demonstrated that these classes have a unitary origin in (post-)PIE perfect active participles in **-wōs ~ *-wos- ~ *-us-*. The masc. obl. sg./nom. pl. endings of Classes I, III and IV, like that of Class II, go back to pre-PT **-V-wəʃ-* (<— PIE **-wos-*), with loss of intervocalic **w* and contraction of vowels. Whereas pre-PT **-əwə-* survived as such into PT, unstressed **-əwə-* was contracted to PT **-o-*, thus accounting for the divergence between the masculine paradigms of Class I and Class II outside the nom. sg.: cf. obl. sg./nom. pl. *ltúweʃ* vs. *yámoʃ, kekámoʃ, tetémoʃ, nanákoʃ*; obl. pl. *ltúwesäm* vs. *yámosäm, kekámosäm, tetémosäm, nanákosäm*. Similarly, the pre-PT sequences **-o-wə-* and **-a-wə-* in Classes III and IV respectively were contracted to PT **-o-* and **-a-*, producing the attested TB forms *tärkoʃ* and *kakāmaʃ*.¹³

Unlike TB, which maintains the alternation between masc. nom. sg. *-u*, fem. nom. sg. *-usa*, obl. *-usai*, nom./obl. pl. *-uwa* (< PT **-əwə, *-əwsa, *-əwsai, *-əwa*) and masc. obl. sg./nom. pl. *-oʃ*, obl. pl. *-osäm* (< PT **-oʃə, *-osən-*) in Class II preterite participles, TA has leveled the vocalism in favor of *-u-*, producing e.g. masc. nom. pl. *kakmuʃ, tatmuʃ, nānkuʃ* to sg. *kakmu, tatmu, nānku*. This *-u-* has also been extended to Class IV, although it represents the sound-change outcome of neither PT masc. nom. sg. **-awə* nor obl. sg./nom. pl. **-aʃə*. Thus in place of expected masc. nom. sg. **kākmo* < PT **ka-kam-awə*, pl. **kāk māʃ* < PT **ka-kam-aʃə* (or **kākmoʃ*, with *-o-* from the nom. sg.), we find *kākmu*, pl. *kākmuʃ*, and

¹³Guðrún Þórhallsdóttir’s discussion supersedes all earlier proposals, on which see pp. 185-8 of her article and also Pedersen (1941:110-11), Van Windekens (1944:104-6), (1980:76-9), Adams (1988:129-34), Pinault (1989:109-10). On contraction across **-w-* in possessive adjs. in **-wənt-*, deverbal nouns in **-wēr*, and isolated nouns going back to PIE **-wŕ*, see Guðrún Þórhallsdóttir (1988:191ff.) and immediately below. Ringe (1996:155-8) provides a useful summary of the outcomes of various sequences of **-VwV-*.

similarly *pāpeku*, pl. *pāpekuṣ* ‘(having) written’ <— PT *pa-payk-awə, *pa-payk-aṣə (TB *papaikau*, *papaikaṣ*). Class III participles have also generalized the vocalism of the nominative singular to the rest of the paradigm: thus to masc. nom. sg. *tārko* ‘(having) let go, uttered’, *ṣtmo* ‘(having) come to stand’ with *-o* < PT *-owə, the nom. pl. forms are *tārkoṣ*, *ṣtmoṣ*, with *-oṣ* for expected *-aṣ < PT *-oṣə.

As a result, TA preterite participles may synchronically be divided into two groups, those with uniform stem vowel *-u-* and those with uniform *-o-*; the former corresponds to Krause and Thomas’s Classes II and IV, the latter to Class III. Although we know little about TA accentuation, it seems probable that the position of stress played a role in this bifurcation: if we assume that primary stress fell on the first “full vowel” (see §6), the stem vowel of Class III participles would have been stressed, whereas Class II participles would have stressed the reduplication syllable, e.g. *tārk-ó*, *kālp-ó* ‘(having) attained’, *lip-ó* ‘left over’ vs. *ká-km-u*, *tá-tm-u*, *nǎ-nk-u*. This contrast was apparently interpreted by pre-TA speakers as one of stressed *-ó-* vs. unstressed *-u-* and extended to the Class IV participles, leading to the replacement of unstressed *-o- and/or *-ā- with *-u-*: hence *kākm-u*, *kākārp-u*, *pāpek-u*, like Class II *tátm-u*, *nǎnk-u*, *yām-u*, as against Class III *tārk-ó*, *kālp-ó*.¹⁴

Moreover, the inflection of preterite participles in TA has almost completely fallen together with that of adjectives in pre-PT *-əwə, *-əwəntə, which continue PIE possessive suffixes in *-went- ~ *-wnt- (cf. Ved. *putrá-va(n)t-* ‘having sons’, *ójas-va(n)t-*, GAv. *aojōṅh-uua(ṅ)t-* ‘powerful’, Gr. *ρόδο-(φ)εῖς* ‘reddish’, *χαρί-(φ)εῖς* ‘graceful, lovely’, gen. *-(φ)εντος*).¹⁵ In the ensuing mixed paradigm, masc. obl. sg. *-nt*, obl. pl. *-ntās*, and fem. nom./obl. pl. *-nt* are from the possessive adjective, and masc. nom. pl. *-ṣ* from the participle; only the fem. sg. retains a distinction between pret. ptcp. *-s*, obl. *-sām* (gen. *-se**) and poss. adj. *-mṣ*, obl. *-mṣām* (gen. *-mṣe**). Cf. the paradigms of *yāmu* and *tārko* with those of *klopasu* ‘suffering’ and *parno* ‘worthy, brilliant’, and see SSS:161, TE I:154-7, Adams (1988:131-3), Pinault (1989:106-7).

¹⁴Much less probable in my view is Winter’s (1994a:402-3; 1994b:298-9) idea that pre-TA *CāCāCā > *CāCāCā in Class IV ptcps., a change for which there are no examples in TA and only a few instances involving other vowels in TB (see fn. 36).

¹⁵Adams’s (1981:23; 1988:133-4) suggestion that the present and aorist active participles inherited from PIE have influenced the pret. ptcp. in TA (see now Saito (2006:9-10, 575)) is of course not implausible. However, as the attested present active participles of the Tocharian languages have an entirely different inflection (TB *-ñca*, obl. *-ñcai*, beside a handful of agent nouns in *-nta*, obl. *-ntai*, e.g. *kaṣenta* ‘murderer’; TA *-nt*, obl. *-ntām*, pl. *-ntāñ*, obl. *-ntās*), it is difficult to believe that possessive adjs. in *-went- did not play a more important role in the pre-TA remodeling of pret. ptcp. inflection.

	masc.	fem.	masc.	fem.
nom. sg.	<i>yāmu</i>	<i>yāmus</i>	<i>klopasu</i>	<i>klopasumts</i>
obl.	<i>yāmunt</i>	<i>yāmusām</i>	<i>klopasunt</i>	<i>klopasumtsām</i>
gen.	<i>yāmuntāp</i>	<i>yāmuse</i>	<i>klopasuntāp</i>	<i>klopasumtse</i>
nom. pl.	<i>yāmuş</i>	<i>yāmunt</i>	<i>klopasuş</i>	<i>klopasunt</i>
obl.	<i>yāmuñcäs</i>	<i>yāmunt</i>	<i>klopasuñcäs</i>	<i>klopasunt</i>
gen.	<i>yāmuñcäsşi</i>	<i>yāmuntāsşi</i>	<i>klopasuñcäsşi</i>	<i>klopasuntāsşi</i>
nom. sg.	<i>tärko</i>	<i>tärkos</i>	<i>parno</i>	<i>parnomts</i>
obl.	<i>tärkont</i>	<i>tärkosām</i>	<i>parnont</i>	<i>parnomtsām</i>
gen.	<i>tärkontāp</i>	<i>tärkose</i>	<i>parnontāp</i>	<i>parnomtse</i>
nom. pl.	<i>tärkoş</i>	<i>tärkont</i>	<i>parnoş</i>	<i>parnont</i>
obl.	<i>tärkoñcäs</i>	<i>tärkont</i>	<i>parnoñcäs</i>	<i>parnont</i>
gen.	<i>tärkoñcäsşi</i>	<i>tärkontāsşi</i>	<i>parnoñcäsşi</i>	<i>parnontāsşi</i>

3. Paradigmatic leveling in the TA preterite participle

Since the leveling of vowel alternations in the endings of the preterite participle is clearly an innovation restricted to TA, it follows that pre-TA must have inherited the PT preforms given above in §2. This deduction has important consequences for the development of the root vocalism in Classes II and IV. If the inherited Class IV endings, e.g. PT masc. nom. sg. *-awə, obl. sg./nom. pl. *-aşə > pre-TA *-āwä, *-āşä, survived until the operation of vowel weakening, the root vowel *ā (< PT *a) would regularly have been raised — to *a and then to *ä — between the *ā of the first and third syllables.

	PT			TA
m. nom. sg.	*kakam-a-wə	*kākāmāwä	*kākamāw	*kākāmāw —> <i>kākmū</i>
m. nom. pl.	*kakam-a-şə	*kākāmāşä	*kākamāş	*kākāmāş —> <i>kākmuş</i>
f. nom. sg.	*kakam-a-wsa	*kākāmāwsä	*kākamāws	*kākāmāws —> <i>kākmus</i>

Subsequently, the endings *-āw, *-āş, *-āws were replaced with *-u*, *-uş*, *-us* from Class II participles (see §2 and below). Of course we cannot prove that these changes actually occurred in this order (see fn. 19), but nevertheless it is clear that Class IV participles cannot be adduced as evidence for weakening of pre-TA *a > *ä before *äw.

If the PT Class II pret. ptcp. endings likewise survived until the period of vowel weakening, that sound change would have produced a paradigmatic alternation in participles with pre-TA root vocalism *a (< PT *ë, *e, *o) or *ā (< PT *a). Before nom. sg. masc. *-əwə and fem. *-əwsa, the root vowel would not have been affected, but the ending *-oşə would have caused weakening of *a > *ä in the obl. sg. and nom. pl.

	PT			TA
m. nom. sg.	*kĕ-kĕs-əwə	*kakasāwä	*kakasāw	*kakasāw → <i>kaksu</i>
f. nom. sg.	*kĕ-kĕs-əwsa	*kakasāwsā	*kakasāws	*kakasāws → <i>kaksus</i>
vs.				
m. nom. pl.	*kĕ-kĕs-əʃə	*kakasaʃä	*kakasaʃ	*kakasaʃ → <i>kaksuʃ</i>
m. nom. sg.	*na-nak-əwə	*nānākāwä	*nānakāw	*nānakāw → <i>nānku</i>
f. nom. sg.	*na-nak-əwsa	*nānākāwsā	*nānakāws	*nānakāws → <i>nānkus</i>
vs.				
m. nom. pl.	*na-nak-əʃə	*nānākaʃä	*nānakaʃ	*nānakaʃ → <i>nānkuʃ</i>

Not surprisingly, the ensuing complex allomorphy between the two stems — which I will call for convenience “nom. sg.” and “oblique” — was then eliminated by leveling. The suffixal vowel was generalized from the nom. sg. to the oblique stem, as we saw in §2.2; thus **kakasaʃ*, **nānakaʃ* became, not “*kaksasʃ*”, “*nānkaʃ*”, but *kaksuʃ*, *nānkuʃ*. On the other hand, the weakened root vowel of the oblique stem was extended to the nom. sg., so that **kakasāw*, **nānakāw* (> “*kakasu*”, “*nānaku*”) were replaced by *kaksu*, *nānku*. As a result, TA Class II participles — like all preterite participles in the language — possess an invariant stem, e.g. *kaksu-*, *nānku-*; the (leveled) suffixal vowel has almost certainly been reanalyzed as belonging to the stem, to which are attached the endings of masc. obl. sg. *-nt* (<— **-ʃ*), nom. pl. *-ʃ*, fem. nom. sg. *-s*, and so on.¹⁶

4. Syncope and the synchronic status of vowel weakening in TA

We have seen that the vowel weakening observed in TA Class II preterite participles may have arisen by the familiar process of paradigmatic leveling, rather than as a regular phonological development when the next (third) syllable contained pre-TA **äw* =*[u]. However, such analogical processes could not have taken place while vowel weakening remained a productive rule. We saw in §1.1 that two later sound changes, epenthesis of **ä* in consonant clusters and syncope of **ä* in open syllables, led to the dephonemicization of **ä* in TA. Once this had happened, the conditions for vowel weakening became synchronically obscured, and the resulting surface opacity opened the door to reanalyses of underlying forms, reinterpretation of the domain of operation for weakening, and other such innovations.¹⁷ It also allowed TA speakers to adopt loanwords such as *āsām* ‘seat, throne’, *āšām* ‘worthy’, *ākāl* ‘wish’ in unaltered form.

¹⁶See §2.2, and cf. Pinault (1989:110).

¹⁷A good example of secondary weakening is *štwarak* ‘40’, for expected **štwarāk* < PT **šətwĕraka*. Apparently the first *-a-* was extended to ‘30’, where it triggered weakening of the following **ā* > **a* (PT **tərʷyāka* [TB *täryāka*] > **täryāk* → **taryāk* > *taryak*), and then the second vowel of ‘30’ spread to ‘40’.

By the time of our TA records, then, vowel weakening in nouns, adjectives, and verbs has become morphologized, i.e. associated with particular inflectional and derivational categories, although the original distribution is still apparent in e.g. Class VI presents in *-nā-* vs. *-na-* ~ *-n-* or Class V subjunctives and Class I preterites in *-ā-* vs. *-a-* ~ *-∅-* (§1.1). Plurals of disyllabic nouns and adjectives in nom. *-āñ*, obl. *-ās* also regularly cause weakening of a preceding *ā* or *a*, e.g. *oñkālm-āñ*, *ṣāmn-āñ*, *ākn̄ts-āñ*, obl. *eṣānt-ās* to sg. *oñkalām* ‘elephant’, *ṣāmam̄* ‘monk’, *ākn̄ats* ‘ignorant’, *eṣant* ‘giving’; cf. also animate obl. *pekānt-ām̄* to nom. *pekant* ‘painter’. This pattern has been extended to other nouns, e.g. pl. *kapśiññ-āñ*, *tāpāky-āñ* <— pre-TA **kapśañy-āñ*, **tāpakāy-āñ* to sg. *kapśañi* ‘body’, *tāpaki* ‘mirror’; here the stem vowel **-ā-* was originally in the fourth syllable, rather than the third.

Furthermore — and this seems not to have been noted — syncope of */ā/* and */a/* has become productive in the secondary nominal cases, mostly with plural nouns. As the following paradigm of *oñk* ‘man’, pl. *oñkañ* demonstrates, weakening of pre-TA **a* > **ā* in the second syllable was regular in the perulative, allative, comitative, and locative (cf. TE I:113). From those cases it spread to the ablative, but not the instrumental in *-yo*, which appears to have been grammaticalized relatively soon before our TA records (Winter (1967:2251)).

nom. pl.	<i>oñkañ</i>	
obl.	<i>oñkas</i>	
instr.	<i>oñkasyo</i>	< <i>*onkas yo</i>
perl.	<i>oñksā</i>	< <i>*onkas-ā</i> ¹⁸
all.	<i>oñksac</i>	< <i>*onkas-ac</i>
comit.	<i>oñksaśśāl</i>	< <i>*onkas-aśśāl</i>
abl.	<i>oñksäṣ</i>	<— <i>*onkas-äṣ</i>
loc.	<i>oñksam̄</i>	< <i>*onkas-an</i>

The same weakening of */ā/* or */a/* to */∅/* is found in the singular of disyllabic nouns, e.g. *akmal* ‘face’, perl. *akml-ā* or *pratsak* ‘chest’, loc. *pratsk-am̄*, and has spread to nouns such as *kapśañi* ‘body’, perl. *kapśiññ-ā*, abl. *-äṣ* < **kapśañy-ā*, **-äṣ* <— pre-TA **kapśañy-ā*, **-äṣ* (cf. pl. *kapśiññ-āñ* above). One even finds all. *mārkampl-ac* (4x) beside regular *mārkampal-ac* (8x), to *mārkampal* ‘dharma, Buddhist law’ (Winter (1994a:410)).

Verbal inflection has also been subject to analogy, as Winter (1992) demonstrated in his study of TA present middle participles in *-mām̄*. Note that Class II presents such as pre-TA

¹⁸Because he restricts the change **a* > **ā* to forms with four or more underlying syllables, Winter (1994a:403-4) has to suppose that **-ā* was reanalyzed as underlying **-a-ā*, but we have seen that weakening of pre-PT **a* > **ā* took place in trisyllabic forms as well (§1). The preservation of the TA perulative ending *-ā* is hardly surprising: univerbation of oblique nouns and postpositional case markers may not have occurred until after apocope, or apocope may well have been disfavored where it would have entailed complete loss of a case ending.

*käl^y-ä/a- < PT *kəl^y(y)-ə/ë- ‘be standing’ have remodeled their 1sg. and participle after verbs with syncope, e.g. *päs-ä/a- <— PT *paşş-ə- ~ *pask-ë- ‘guard, protect’.

1sg. *käl ^y -a-mār > *klyamār —> käl ^y mār	cf. *päs-a-mār > pāsmār*
2sg. *käl ^y -ä-tār > käl ^y tār*	*pāş-ä-tār > pāştār
3sg. *käl ^y -ä-tār > käl ^y tār	*pāş-ä-tār > pāştār
1pl. *käl ^y -a-mtār > klyamtār*	*päs-a-mtār > pāsamttār*
2pl. *käl ^y -ä-cār > käl ^y cār*	*pāş-ä-cār > pāşşār*
3pl. *käl ^y -a-ntār > klyantār	*päs-a-ntār > pāsantār
ptcp. *käl ^y -a-mān > *klyamām —> käl ^y mām	*päs-a-mān > pāsmām

Thus all Class II presents, both to roots with no underlying vowel (e.g. *pār-* ‘carry’, *şām-* ‘be sitting’) and to roots containing a *Vollvokal* (e.g. *āk-* ‘lead’, *klyos-* ‘hear’), share the same set of endings. The same leveling is found in other thematic classes, especially former Class IX (*sk-*)presents, although forms such as Class VIII *luksamām* < *lāwksamān < PT *ləwk-sē-manë vs. *nākāsmām* < *nāksamān < PT *nak-sē-manë (to *luk-s-* ‘make bright, enlighten’, *nāk-s-* ‘blame’) or Class XI *āksisamām* (beside *āksismām*, to *āks-is-* ‘proclaim’) still reflect the original distribution of weakening.

Since vowel weakening was no longer a productive phonological rule in (late) pre-TA, there is no reason why the vocalism of TA Class II and IV preterite participles could not have arisen by the sort of paradigmatic leveling proposed in §3. The changes discussed there must then have taken place after the operation of syncope made weakening opaque on the surface, e.g.

	apocope, weakening 1	weakening 2	syncope	
*kakasāwä > *kakasāw				—> <i>kaksu</i> *
*kakasaşä > *kakasaş	>	*kakäsaş >	*kaksaş	—> <i>kaksu-ş</i>
*nānākāwä > *nānākāw				—> <i>nānku</i>
*nānākaşä > *nānakaş	>	*nānākaş >	*nānkaş	—> <i>nānku-ş</i>

As a consequence, the contrast between Class II participles such as *tatmu* ‘born’, *kaksu* ‘(having) extinguished’ (TB *tetemu*, *kekesu*), with root vowel reflecting PT *ë, and those of the type of *kakmu* ‘having come’, *papräku* ‘(having) asked’ (TB *kekämu*, *pepärku*), with root vowel PT *ə, was lost in TA: whereas *kakmu*, pl. *kakmuş* developed regularly from PT *k^wë-k^wəm-əwə, *k^wë-k^wəm-oşə (except for the vowel of the plural ending), the root vowel Ø (< *ä) in *tatmu*, *tatmuş* arose by weakening in the oblique stem and was leveled into the nominative singular. The appearance of Ø (~ ä) in the stem of preterite participles to verbs with root vowel

Ø and *ā* was hence a completely productive — as far as we can tell, exceptionless — morphophonological alternation:

- all roots of the shape $C_1(\ddot{a})C_2-$ ($C_1C_2\ddot{a}C_3-$) formed pret. ptcps. of the structure $C_1a-C_1C_2-u-$ ($C_1a-C_1C_2\ddot{a}C_3-u-$);
- all roots of the shape $C_1\bar{a}C_2-$ ($C_1\bar{a}C_2C_3-$, $C_1C_2\bar{a}C_3-$) formed pret. ptcps. of the structure $C_1\bar{a}-C_1C_2-u-$ ($C_1\bar{a}-C_1C_2\ddot{a}C_3-u-$); and
- all roots of the shape $C_1\bar{a}C_2(C_3)\bar{a}-$ formed pret. ptcps. $C_1\bar{a}-C_1C_2-u-$ ($C_1\bar{a}-C_1\ddot{a}C_2C_3-u-$).¹⁹

5. Unlikely cognates: the abstract suffixes TA *-une*, *-one* and TB *-(āñ)ñe*, *-auñe*

5.1. If the above account of vowel weakening in the TA preterite participle is correct, it holds interesting consequences for the prehistory of another category, the TA verbal noun and abstract-forming suffix *-une*. Like its TB counterpart (see below), *-une* is regularly attached to gerundive II, the verbal adjective in *-l* (< PT **-llē*, obl. **-lylyē*) built to the subjunctive stem; cf. e.g. *yāml-une* ‘making’ to subj. Class II 1sg. *yām-am*, ger. II *yām-äl*, or *nkal-une* ‘destruction, perishing’ to subj. Class III 3sg. *nka-tār*, ger. II *nka-l*.²⁰ In addition, *-une* and its variant *-one* derive abstract nouns from many other adjectives, as well as from nouns (SSS:7-10).²¹

1. From nouns: *kākmart* ‘majesty’, *nātāk* ‘lord’, *purohit* ‘priest’, *brāmaṃ* ‘brahman’, *riṣak* ‘ṛṣi’, *lānt* ‘king’ (obl.; nom. *wäl*), *ṣāmaṃ* ‘monk’ —> *kākmārtune*, *nātkune*, *purohitune*, *brāmnune*, *riṣakune*, *lāntune*, *ṣāmnune*.
2. From adjectives in *-ts*: *āknats* ‘ignorant’, *tsopats* ‘big, great’, *tampewāts* ‘mighty, powerful’ —> *ākntsune*, *tsopatsune*, *tampewātsune*. From such abstract nouns, a new suffix *-tsune* was segmented and applied to other adjectives, e.g. *omäl* ‘hot’, *tāskmām* ‘similar, like’ —> *(o)mälsune*, *tāskmām̄tsune* (SSS:9, Hackstein (1995:187-8)).
3. From adjectives in *-r* < PT **-rē*, most of which have good PIE etymologies: *āštār* ‘pure’, *ciñcār* ‘dear’, *tpār* ‘high’, *pärkär* ‘long’, *wir* ‘young’ —> *āṣtrone*, *ciñcrone*, *täprone*, *pärkrone*, *wirone*.

¹⁹One cannot exclude the possibility that these Class III participles replaced the expected endings **-o*, **-aṣ* (or **-oṣ*) with *-u*, *-uṣ* and then (or simultaneously) adopted the stem alternation of Class II participles like *tatmu*, *pāpṣu*. Since the former type (built to roots in final *-ā-*) is so numerous, I find it more likely that the weakening of the root vowel here is regular (see §3), and perhaps contributed to the generalization of Ø in *tatmu*, *pāpṣu*, etc.

²⁰A very few examples are formed to gerundive I, the verbal adjective of necessity corresponding to the present stem, but without detectable distinction of meaning. Cf. e.g. *kālpnāl[u]n[e]y-ac* ‘to the attainment’ for usual *kālpālune* (pres. *kālpnā-*, subj. *kālpā-*).

²¹The TA abstract suffix *-ñe* (SSS:10-1) has been borrowed from TB *-(āñ)ñe*, e.g. in *ykorñe* ‘negligence’, *tālorñe* ‘misery’ (Couvreur (1947:23), Winter (1961:278), Van Windekens (1980:160-1)).

4. From various other adjectives, e.g. *opäśśi* ‘capable, expert’, *omäskem* ‘bad’, *klyom* ‘noble’ —> *opäśśune*, *omäskune*, *klyomune*; *kāsu* ‘good’, *mok* ‘old’ —> *kāswone*, *mokone*.

Like the preterite participles discussed in §3, TA abstract nouns in *-une* are regularly associated with weakening of \bar{a} or *a* to $\emptyset \sim \bar{ä}$ in a preceding (second) syllable: cf. *kākmärtune* ‘majesty’, *brāmnune* ‘brahmanhood’, *ākntsune* ‘ignorance’, *tsoptune* ‘size, greatness’ to *kākmart*, *brāmam*, *āknats*, *tsopats*. In verbal nouns to subjunctive stems of the shape *C(C)āC(C)ā-*, the stem-final vowel has likewise undergone weakening; cf. the corresponding preterite participles, where the root vowel \bar{a} in the second syllable is raised to $\emptyset \sim \bar{ä}$.

gerundive II	verbal noun	cf. pret. ptcp.
<i>kākal</i>	<i>kāklune</i> ‘(act of) calling’	<i>kākku</i>
<i>kārpal</i>	<i>kārplune</i> ‘(act of) descending’	<i>kākärpu</i>
<i>yātal</i>	<i>yātlune</i> ‘being able, ability’	<i>yāytu</i>
<i>spārtwal</i>	<i>spārtwlune</i> ‘(act of) turning’	<i>sāspärtwu</i> . ²²

However, this shared peculiarity of the abstract suffix and preterite participle need not imply a diachronic connection. Pinault (1989:170 s.v. *tsraşşune*) describes *-une* as a “suffixe complexe” composed of pret. ptcp. *-u* and an element *-ne*, but the source of the latter is entirely mysterious, and in any case a derivational suffix would hardly have been added to the masc. nom. sg. ending.

5.2. Any historical explanation for the TA abstract in *-une*, *-one* must account for the distribution of the two allomorphs as well as the vowel weakening in *ākntsune*, *kāklune*, and the like. To this end, let us compare the TA suffix with its TB equivalent *-(äñ)ñe*, *-auñe* (MQ also *-eñe*, *-ewñe*). The two Tocharian abstract formations are routinely compared with each other and cited together (e.g. Van Windekens (1944:81-5), (1980:151ff.); see also §5.5), but no one to my knowledge has seriously attempted to reconstruct a common PT preform and its development in each language.²³

²² In originally diphthongal roots, the verbal noun shows the same weakening of stem-final \bar{a} -, whereas the pret. ptcp. retains *e* resp. *o* (see fn. 2). Cf. ger. II *pekal*, v.n. *peklune* ‘(act of) writing’ (pret. ptcp. *pāpeku*) to *pik-* ~ *peka-* < PT *pəyk- ~ *pəyka-; ger. II *kropal*, v.n. *kroplune* ‘(act of) gathering’ (pret. ptcp. *kākropu*) to *kropa-* < PT *krəwpa-.

²³ A number of scholars have assumed that abstract nouns such as *şamāññe* ‘monkhood’, *lantuññe* ‘royalty, royal dignity’ are in origin merely substantivized neuter adjs. in *-ññe* (Winter (1961:278), Pinault (1989:102), (2002:263)), but this accounts for neither the distribution of *-(äñ)ñe* and *-auñe* in TB nor the contrast between the corresponding formations in TA, i.e. abstract *-une*, *-one* vs. adjective *-Vm*. The homonymy of abstracts and denominal

Taken by itself, the final vowel of TA *-une*, *-one* could continue a PT diphthong *-Vy, but it could also be cognate with TB *-iye*, as in Class VI, 1 nouns of the type of TB *kälymiye*, TA *kälyme* ‘direction’, TB *yšiye*, TA *wše* ‘night’. The exact PT source of this ending is unclear: word-final TB *-e* could continue *-ë or *-e, and either *-əye (*-əyë) or *-eye (*-eyë) would have given TB *-iye*; in the latter case, PT *ę > pre-TB *i would have been reanalyzed as underlying /ə/ before a following /y/. TA *-e* is more easily derived from PT *-eye/ë (> pre-TA *-ey > -e),²⁴ but it is not impossible that PT *-əye/ë would also have contracted to *-e*. In the following discussion, PT *-əye is intended as shorthand for all of these options.

The TA variants *-une*, *-one* may then be projected back to PT *-əwnəye resp. *-Vwnəye (V= *ë, *e, *a, *o). What would these have become in TB? Since the stress would never have fallen later than the first syllable of the suffix, *-Vwnəye would have become *-Vwnye (syncope of unstressed *ə in open syllable), whence *-Vwññe by palatalization of a secondarily arisen *Cy cluster in pre-TB.²⁵ This exactly matches TB *-auññe* (*-e_uññe*, *-ewññe*), which is underlyingly /-e-wññe/ with the thematic stem vowel /-e-/ < PT *-ë-.

We may thus reconstruct PT *-ë-wnəye as the common ancestor of TB *-auññe* and TA *-one*. Similarly, PT *-ə-wnəye > *-əwnye > *-əwññe should have given TB *-uññe*, which occurs in a small set of forms (e.g. *lantə-wnəye > *lantúññe* ‘royalty’; see below), and TA *-une*.

However, the most common allomorph of the abstract suffix in TB is *-(äññ)ñe*, and it is this form, along with the distribution of *-auññe* and *-uññe*, which we must now examine.²⁶

adjs. in TB *-(äññ)ñe* is a result of language-internal developments; see below. — Other outdated hypotheses include those of Pedersen (1941:100-1) and Van Windekens (1980:151ff., 158-9).

²⁴Note the pl. forms in *-ey-äntu* (*-eyntu*, *-eytu*, *-entu*; SSS:98), e.g. *kāswone* ‘goodness, virtue’, pl. *kāswoneyäntu*, *kāswoneyntu*, *kāswonentu*; *yātlune* ‘ability’, pl. *yātluneyntu* (to *yātā* ‘be able’); *tsraşşune* ‘energy’, pl. *tsraşşūneyntu* (to *tsraşi* ‘energetic’), like *kälymeyäntu* ‘directions’, loc. *kälymentw-am*, *kälymetw-am*. Cf. *pārko* ‘advantage, profit’ < PT *pərkawə, pl. *pārkow-äntu* <— PT *pərkaw-ənta (TB *pārkā_u*, pl. *pārkāw-änta*; loanword from Bact. φρογαοο ‘profit’ < OIr. *fra-gāwa-, cf. Schwartz (1974:404-5), Pinault (2002:265)).

²⁵For PT *-Cəy- > *-Cy- > *-CC- where C is a palatalized consonant, cf. PT denominal adjectives in *-şəyë > TB *-şşe* (TA *-şi*; see §1), and also TB Class II (causative) preterites and the corresponding preterite participles, e.g. PT *cə-cəl-a- ~ du./pl. *tə-təl-a- → *cəyəl-a- ~ *təyəl-a- → *cəyál-a- > *cyál-a- > TB 1sg. *cālawā*, 3 *cāla*, *cāla-ne* /cāla-/ ‘endured, bore’ (TA *cacäl*; R. Kim (2003:203-6), (2007a)). Examples in which C was not a (historically) palatalized consonant are harder to find, but see the discussion in R. Kim (2007a).

²⁶The pre-TB geminate *ññ is usually simplified after a diphthong, in *-áuññe* and also in *oksáññe* ‘pertaining to oxen’, *kláññe* ~ *kláññe* ‘female, pertaining to women’, etc.; see below for the accentual conditioning of *-áññe* vs. *-aññe*. One also usually finds degemination and syncope of posttonic *’-əññe > *’-əñe > *-ñe* when the resulting form would be syllabifiable, e.g. after sonorants: hence *aikarññe* ‘emptiness’, *şamāññe* ‘monkhood’ < *aikarāññe**, *şamāññe**, and the verbal nouns in *-(y)ñe* < *-llāññe* (see fn. 39), but regularly *pá-ñāktāññe*,

Following Sieg (apud Couvreur (1947:23)), Krause and Thomas (TE I:149) observed that the two variants *-auñe* (*-e_uñe*, *-ewñe*) and *-(äñ)ñe* are strictly conditioned by length of the underlying adjective: the former occurs with monosyllabic bases, the latter with polysyllables.²⁷ Many clear examples involve adjectives ending in *-re*:

- | | | |
|-----|---|---|
| (1) | <i>tapre</i> /təpɾé/ ‘high’ | <i>täprouñe</i> |
| | <i>ratre</i> /rətré/ ‘red’ | <i>rätrouñe</i> |
| | <i>lāre</i> /laré/ ‘dear’ | <i>larauñe</i> (MQR <i>larewññe</i>); cf. also |
| | <i>kartse</i> /kərt ^s é/ ‘good’ | <i>kärtsauñe</i> |
| | <i>makte</i> /məkté/ ‘self’ | <i>mäktauñe</i> (MQ <i>mäktewñe</i>) |
| | <i>īte</i> /i(y)əyté/ ‘full’ | <i>itauñe</i> |
| (2) | <i>astáre</i> /astóre/ ‘pure’ | <i>astáräññe</i> , <i>astárñe</i> |
| | <i>aikáre</i> /aikóre/ ‘empty’ | <i>aikárñe</i> |
| | <i>kätkáre</i> /kətkóre/ ‘deep’ | <i>kätkárñe</i> |
| | <i>cāñcáre</i> /cəncóre/ ‘lovely, delightful’ | <i>cāñcárñe</i> |
| | <i>pakwāre</i> /pakwáre/ ‘bad’ | <i>pakwārñe</i> ; cf. also |
| | <i>ktsaitse</i> /kətsáit ^s e/ ‘old (of age)’ | <i>ktsáitsäññe</i> , <i>ktsáitsñe</i> |
| | <i>takárške</i> ‘believing, gracious; clear’ | <i>takárškäññe</i> , <i>takárškñe</i> |
| | <i>empele</i> ‘terrible’ | <i>empelñe</i> |
| | <i>aitkatte</i> ‘unordered’ | <i>aitkatñe</i> |

Winter (1990:6) correctly points out that this distribution must be connected to stress: the forms under (1) have stress on the first syllable of the suffix, whereas those under (2) stress the second syllable of the base. He is led by denominal adjectives such as *yäkweññe* ‘equine’ (to *yakwe* /yək^wé/ ‘horse’; see §5.3) to the assumption that their *-éññe* is original, and that the suffix of *kärtsauñe*, *larewññe*, etc. reflects addition of *-ññe* to a stem ending in accented */-én-/* (cf. masc. obl. sg. *larém* /larénə/, etc.); similarly for forms such as *lantúññe*, in which *-ññe* is suffixed to a stem ending in */-ón-/* (obl. sg. **lantám* /lant-ónə/, for TB *lānt* /lant-ə/ ‘king’). The nasal of such forms has in his view been generalized from animate referents, and goes back

púd-ñäktäññe ‘Buddha’s’. This reduction probably began in colloquial registers and verse (cf. metrical *takárškñe* ‘belief’ in B19 a2, B23 a2, 5, etc.), but has spread to other contexts as well. The same degemination is responsible for TB abstracts in *-mñe* to adjs. in *-mo*, e.g. *cāmpámñe* ‘ability’, *waşámñe* ‘friendship’ < **cəmpə́m-əññe*, **waşə́m-əññe*, and also for fem. *-mña* < PT **-məñña*, e.g. *klyomña* ‘noble’ < PT **klʷom-əñña* (TA *klyom-im*; pace Winter (1990:22-3)). — Cf. the syncopated variants of *sk*-present forms containing *-şş-*, e.g. pres. *yāmşām*, pret. *yāmşawa*, *yāmşälle* (and with degemination of *-ll-*, *yāmşle*) for *yamáşşām*, *yamáşşawa*, *yamáşşälle*, to /yam-/ ‘do, make’ (Thomas (1978:173-83)).

²⁷Cf. also *katkauñña* (B119 a6), *katke_uwñ[a]* (B275 b2) ‘joy’ and *läktsauña* (B154 b2), *läk_utsewña* (B135 a6) ‘lamp’, formed respectively to /katk-/ ‘rejoice’ (from **kātke* ‘joyful’?) and the adjective *laktse*, *lak_utse* ‘shining’ < PT **lək^w-t^së* (Winter (1990:29)).

to PIE acc. sg. *-m; a sound law *m > *w / __ ñ will produce the attested TB *-e_iñe*, *-ewñe* /-éwñe/, *-úñe* /-ówñe/.

This ingenious hypothesis is open to several objections. Although TB adjectives in *-re* < PT *-rē do inflect differently depending on the length of the base (monosyllabic masc. nom. pl. *laréñ*, obl. *larém* vs. disyllabic *astári*, *astárem*; TE I:149, 152, Pinault (1989:100)), the masc. obl. sg. of both subtypes must originally have ended in *-nə, e.g. *larém* /larénə/, *astárem* /astóren(ə)/ < *lar-énə, *astár-énə,²⁸ so I cannot understand why the stems of the first group, but not the second, would have ended in a nasal. Furthermore, it is highly unlikely that the oblique stem of nouns denoting animate beings still ended in *-m as late as pre-TB; even if the characteristic animate obl. ending TB *-m*, TA *-am* goes back to PIE *(o)m rather than a generalized *n*-stem *-on-m (with the individualizing suffix *(o)n-), as most scholars believe, the change of word-final *-m to *-n surely took place already in pre-PT (Ringe (1996:69-70)). The supposed sound change *m > *w / __ ñ also lacks any support; as for TB present 1sg. TB /-w/ (athematic *-u* /-əw/, thematic *-au*, *-e_u* /-e-w/), which Winter takes to be generalized from *-w < *-m followed by the 1sg. pronoun *ñäs* (*ñís*), I prefer to assume that word-final PT *-m became pre-TB *-w here and in the demonstrative *sə-m, *sa-m, *tə-m ‘that (one), s/he’ > TB *su*, *sāu*, *tu* (TA *sām*, *sām*, *tām*).²⁹ Finally, Winter does not address the suffixal vocalism of abstract nouns to polysyllabic bases: why do we find *astár-(äñ)ñe*, *kätkár-ñe*, *ktsáits-(äñ)ñe*, *takáršk-(äñ)ñe* and not “*astár-eññe*”, “*kätkár-eññe*”, “*ktsáits-eññe*”, “*takáršk-eññe*”?

5.3. The principal weakness of Winter’s discussion is that he conflates two functionally quite distinct TB formations: the abstract noun in *-(äñ)ñe*, *-auñe*, which like the TA abstract is built mostly to adjectives; and the derived adjective in *-ññe*, formed to nouns of all types.

²⁸Note that at least some disyllabic bases among TB adjs. in *-re* go back to monosyllabic bases in PT, e.g. *ast-rē, *aik-rē and possibly *pərk-rē, *cənc-rē (see R. Kim (2007b) with references for the different stages of *ə epenthesis in PT and TB). Both this inflectional split and the distribution of *-auñe* and *-(äñ)ñe* are therefore almost certainly due to specifically pre-TB changes. In TA, all adjs. in *-r* inflect identically, with pl. nom. *-e* < PT *-e (TB *-i*), obl. *-es*, and form abstracts in *-one* (TE I:149; see below, §5.4).

²⁹Specifically, the PIE 1sg. primary ending *-mi underwent early apocope to pre-PT *-m, parallel to 3pl. athematic *-nti > *-ənti ~ *-ənt > PT *-əñcə ~ *-əñ (> TB /-əñ/, → TA *-iñc*), thematic *-o-nti > *-onti ~ *-ont > PT *-ēñcə ~ *-ēñ (> TB *-em*, → TA *-eñc*; Ringe (1996:76-8)). The apocopated variants were generalized in all forms except for (PIE *h₁éy-mi → *i-mi >) PT *yə-mə ‘I go’ > TB *yam*, TA *yām*.

As for impf./opt. 1sg. *-m*, Winter (1990:25-7) suggests that the change *-m > *-w did not apply after *[i] (i.e. *y, in *-əy-m and *-o-y-m), but the stress of forms such as impf. *cämpím*, *cimpím* ‘I was able’, opt. *yamím*, *yamím* ‘I would make, do’ indicates that these are underlyingly /-əy-mə/, /-o-y-mə/. I have no explanation at present for why this ending should have escaped apocope.

Examples such as the following show that the latter suffix goes back to PT *-ññë; the TA cognates reflect the specifically TA changes of *ññ > *yñ, apocope, word-final *-ñ > *-n, and monophthongization of *Vy > e (Winter (1977:148-50)).

TB *ostáññe*, TA *waštım* < PT *wostə-ññë to *wostə ‘house’ (TB *ost*, TA *wašt*)

TB *yäkweññe*, TA *yukem* < PT *yəkʷë-ññë to *yəkʷë ‘horse’ (TB *yakwe*, TA *yuk*)

TB *lwāññe*, TA *lwem* < PT *ləwa-ññë to *ləwo, obl. *ləwa ‘animal’ (TB *luwo*, *luwa*, TA *lu*)³⁰

As a result of pre-TB phonological developments, I propose that these adjectives were partially confused with similar-looking abstract nouns. Whereas PT *-é-wnəye clearly became TB *-eññe*, *-ewññe* (*-auññe*) in *larewññe* (*larauññe*), *mäktewññe* (*mäktauññe*), etc., the abstracts under (2) have undergone at least one, possibly two sound changes. The first inserted *ə in sequences of the shape *VC(C)CV́, e.g. PT *kətkré ‘deep’, *astré ‘pure’ > pre-TB *kətkóre, *astóre. The corresponding abstract nouns *kətkr-é-wnəye, *astr-é-wnəye thus became *kətkór-ewnəye, *astór-ewnəye > pre-TB *kətkór-ewññe, *astór-ewññe, with unstressed suffix just like *pakwár-ewnəye > *pakwár-ewññe.³¹

The unstressed (or at least posttonic) diphthong *ew was then monophthongized to *e, judging from the reduction of posttonic *ai > *a in Class VI, 3a nouns with stems of three or more syllables: cf. pl. nom. *oksáin* ‘oxen’, *kúsáin* ‘villages’, *pyapyáin* ‘flowers’ vs. *aršáklañ* ‘snakes’, *kercápañ* ‘donkeys’, obl. *witsákam* ‘roots’; or the adjectives *oksái-ññe*, *pyapyái-šše* vs. *kercápa-ññe*, *witsáka-šše*. Cf. the paradigms of *okso* ‘ox’, with monosyllabic base, and *kercápo* ‘donkey’, with disyllabic base.³²

³⁰Cf. also TB *wešēñña*, TA *wašem* ‘voice’, in origin surely a substantivized feminine adjective PT *wēšēññ-a derived from PT *wēkə ‘id.’ (TB *wek*, TA *wak*). The source of the palatalized *ś is unclear.

³¹This epenthesis may have occurred already before the end of the PT period, although the relative chronology of this and other late pre-PT changes cannot be determined with certainty.

³²See Winter (1989:111-5), although I cannot follow him in deriving obl. sg. *-ai* < *-a-n or in his historical explanation of the difference between the types of *okso*, obl. *oksai*, pl. *oksáin**, obl. *oksáim*, adj. *oksái-ññe* and *kātsə* ‘belly’, obl. *kātsa*, gen. *katsāntse*, pl. *katsāññ**, obl. *katsām**, adj. *katsāšše* (115-9). The latter must have a different origin, perhaps with obl. sg. PT *-a < *-ām < PIE acc. *-eh₂-m.

A similar monophthongization may also underlie TB impf. and opt. forms in 1pl. *-om*, 3pl. *-om* to stems ending in /-oy-/, e.g. 3pl. *tākom* ‘they might be’, *kársom* ‘they might know’ (F, S3 b4), *stāmom* ‘they might come to a stand, stop’ (B274 a2 [MQ]). These are universally treated as contracted variants of *-oyem*, *-oyem*, but I see no reason why PT *'-oy-mə, *'-oy-n could not have regularly become *'-omə, *'-on > TB *-om*, *-om*. The longer endings, on the other hand, could easily have been created at any time by adding the thematic endings *-em*, *-em* to the stem in /-oy-/: cf. the sporadic appearance of thematic 1 and 3pl. endings in athematic

nom. sg.	<i>okso</i>	<i>kercápo</i>	
obl.	<i>oksai</i>	<i>kercápai</i>	
gen.	<i>oksáim̄tse*</i>	<i>kercápam̄tse*</i>	< *'-aintse
nom. pl.	<i>oksáin̄*</i>	<i>kercápañ</i>	< *'-aiñ
obl.	<i>oksáim̄</i>	<i>kercápam̄*</i>	< *'-ain
adj.	<i>oksáin̄e</i>	<i>kercápaññe</i>	< *'-aiññe

The complex outcomes of PT abstract *-wnəye in TB, and the relationship between abstract nouns and derived adjectives in PT *-ññë, would then have been as follows:

*-é-wnəye	> <i>-éwññe</i>	*-é-ññë	> <i>-éññe</i>
*'-ë-wnəye	> *'-eññe (?)	*'-ë-ññë	> *'-eññe (?)
*-ə-wnəye	> <i>-úññe</i>	*-ə-ññë	> <i>-áññe</i>
[*'-ə-wnəye	> *'-uññe?]	*'-ə-ññë	> <i>-(äñ)ñe</i>
[*'-á-wnəye	> <i>-áwññe</i>] ³³	*-á-ññë	> <i>-āññe</i>
*'-a-wnəye	> *'-aññe	*'-a-ññë	> <i>'-aññe</i>

In that case, the adjectival suffix /-əññe/ originally proper to e.g. *ostáññe* 'house (adj.)', *naušáññe* 'earlier', *lāksáññe* 'fish (adj.)', *wesáññe* 'our' (cf. *ost* 'house', *nauš* 'earlier (adv.)', before', *laks* 'fish', *wes* 'we') must have been extended not only to adjectives with polysyllabic thematic bases, e.g. *páññäkt-äññe*, *bodhisātv-äññe*, *rṣāḱ-äññe*, *ṣecák-äññe* to *páññäkte* 'Buddha',³⁴ *bodhisātve* 'bodhisatva', *rṣāḱe* 'ṛṣi, sage', *ṣecáke** 'lion' but also to abstract nouns formed to polysyllabic thematic adjectives and nouns (cf. Van Windekens (1980:152-3)). In other words, the pre-TB adjectives *'-ññäkt-eññe, *ṣecák-eññe and abstracts (*astór-ewññe, *kətsáits-ewññe >) *astór-eññe, *kətsáits-eññe would have been replaced by *'-ññäkt-əññe, *ṣecák-əññe > TB (*pá-)*ññäktäññe, *ṣecák-äññe* and *astór-əññe, *kətsáits-əññe > TB *astár(äñ)ñe*, *ktsaits(äñ)ñe*.

present and subjunctive paradigms, e.g. Class I pres. *nes-em* 'we are' (vs. 3pl. *nes-äm̄*), *wolok-entär* 'they stay' (vs. 1sg. *wolok-mar*; Schmidt (1985:425-6)). — The monophthongization in TB *śaumo* 'human being' < PT *śawmo, pl. *śāmna*, adj. *śāmñe* 'human' < PT *śawməna, *śawməññe is somewhat different, since it involves a stressed syllable.

³³Abstract nouns formed to stems of three or more syllables ending in *-ə-, or disyllabic stems ending in *-a-, do not occur; their presumed phonological development is listed merely for comparison.

³⁴Cf. *púññäktäññe* to poetic *púññäkte*, and likewise to names of other gods ending in *-ññäkte*, e.g. *Yláiññäktäññe* to *Yláiññäkte* 'Indra' (see Winter (1987:310-1), where however no explanation is offered).

Such a generalization would be most unlikely, as thematic formations (i.e. those with masc. nom. sg. *-e* < PT **-ë*) comprise a large majority of all adjectives in TB. Moreover, the relation between noun and derived adjective, or between base adjective or noun and the corresponding abstract, remained synchronically transparent in most cases. I therefore wonder if unstressed PT **'-ë-ññë*, or pre-TB **'-eññe*, did not become **'-əññe* by a regular phonological development. Such a restricted sound change would seem to have little to recommend it. There seem to be no parallels, and note that this reduction did not affect unstressed **'-a-ññë* > **'-aññe* in e.g. TB *eñcúwaññe*, *pikwálaññe* (to *eñcuwo* ‘iron’, pl. *pikwala* ‘years’), or unstressed **'-a-wñəye* > **'-aññe* in the abstract noun *aknātsaññe* ‘ignorance’ (to *aknātsa* ‘ignorant’). But if accepted, it explains not only the uniform *-(äñ)ñe* of *pāñāktāññe*, *šecākāññe*, and other derived adjectives to polysyllabic thematic nouns, but also the ending *-(äñ)ñe* of abstract nouns such as *astárāññe*, *ktsaits(äñ)ñe*, and the verbal nouns in *-llāññe*, *-(y)ñe*.³⁵ In the latter, PT **'-ë-wñəye* > **'-ewññe* yielded **'-eññe* by monophthongization of **ew* in a posttonic closed syllable; then the latter became **'-əññe* > *-(äñ)ñe*.³⁶

Note also that the distinction between the two formations has been effaced in cases like *lantúññe*, which means both ‘royalty, royal dignity’, e.g. B22 a5 *lyāma-n=asā[m]ne wteṃtse wsā[-ne] lantuññe* ‘he set him on the throne and gave him a second time [his] royal dignity’, and ‘royal, kingly’, e.g. B100 b6 *lauke tattārmem lamñtuññem yetwem* ‘having put away the royal jewels’ (Adams (1999:544-5 s.vv.)). Formally, the ending *-úññe* was proper to the abstract noun, where it directly continues PT **'-ə-wñəye*; as an adjective ‘royal’, it has replaced expected **lantáññe* < **lantə-ññë* (cf. *ostáññe*, *naušáññe*, etc.). The confusion may have originated in phrases such as *lamñtuññe ike* (in B128 a4 *lam[tu]ññe ike källālñe* ‘attainment of the royal position’), which can also be interpreted as a compound ‘royalty-position’, and would have been reinforced by the homophony of abstracts and adjectives formed to

³⁵It is true that most of the relevant adjs. in *-(äñ)ñe* are formed to nouns of foreign origin, but this is largely because most inherited thematic nouns in TB *-e* had disyllabic stems with underlying stress on the stem vowel, e.g. *yākwe* /yək^{wé}/ ‘horse’, *ñakte* /ñəkté/ ‘god’, adjs. *yākwéññe*, *ñäktéññe*. In any case, loanwords such as *šamāne* ‘monk’ or *bodhisātve* surely go back to PT (see §5.5) and are thus of diagnostic value for the reconstruction of pre-TB developments. Cf. also proper names of Indian origin, e.g. *Dharmasom-äññe* ‘pertaining to D.’ <— *Dharmasome*. — I do not understand forms such as TB *eñkwáññe*, *yaksámññe* (B99 a5) to *eñkwe* ‘man’, *yākše* ‘yākša, demon’, for expected **eñkwéññe*, **yakséññe*.

³⁶Another possible example of the change proposed here is *tsetserñu*, pret. ptc. of /t^{ser}-eññ-/ ‘deceive’, for expected **tsetserēññu* < PT **t^së-t^séreññ-əwə*. But as Winter (1994a:403) observes, this could be parallel to the deletion of the last of three consecutive *o*’s in pres. *kolokträ* ‘follows’, *sonopträ* ‘anoints’ < **koloko-*, **sonopo-* (beside subj./pret. /kalaka-/ /sanapa-/ in pret. ptc. *kakālakau*, inf. *sanāpatsi*). — Winter’s extension of this pattern to Class III pret. ptcps. in *-u* is unlikely and unnecessary; see above, §2 and fn. 14.

polysyllabic thematic nouns, e.g. *ṣamāññe* ‘monkhood’ < *ṣamán-əññe < *-eññe < PT *-ë-wñəye (B44 b6 [*y]ku päst krennt ṣamāññemṣ ṣañ oskai* ‘having gone away from [his] good monkhood to [his] own house’) and *ṣamāññe* ‘pertaining to a monk, monastic’ < *ṣamán-əññe < PT *-ë-ññë (B558 b4 *ṣamāññana krentaunamts yetwe yāmtsiś* ‘to make the jewel of monastic virtues’; Adams (1999:649)). I assume that the same extension of abstract *-úññe* to the adjective has occurred in the adjs. *lykuññe*, *sanuññe*, *kotruññe* (to *lyak* ‘thief’, *sāṃ* ‘enemy’, *kottär* ‘gotra, clan, family’), even if the abstract usage happens not to be attested.³⁷

5.4. TA, on the other hand, clearly maintains the contrast between abstract nouns in *-one*, *-une* and derived adjectives in *-Vm* (*-em* < PT *-ë-ññë, *-a-ññë, *-im* < PT *-ə-ññë), but has altered the original distribution of *-one* < PT *-ë-wñəye and *-une* < PT *-ə-wñəye. After the apocope of word-final vowels, it was no longer always possible to tell which nouns and adjectives ending in a consonant went back to PT *-ë and which to PT *-ə, i.e. the surface identity of the different classes led to numerous misanalyses on the part of speakers. We have seen some of the many consequences of this opacity for TA grammar, from stem fluctuation in derived adjectives in *-ṣi* < PT *-ṣəyë (§1.2), to reanalysis of the allative and locative case markers as *-ac* resp. *-am* (<— *-a-c, *-a-n < *-ë-cə, *-ë-në to thematic stems; §4).

For reasons which remain unclear at present, TA has restricted the allomorph *-one* < PT *-ë-wñəye, originally proper to all thematic stems, almost exclusively to adjectives in *-r* < PT *-rë. This patterning cannot have anything to do with inflection, since the inflection of adjectives in *-r* is largely identical to that of adjectives in *-ts*, or verbal adjectives in *-l*; but it may not be irrelevant that most adjectives in *-r* have monosyllabic bases, whereas the latter types virtually all contain bases of two or more syllables. It appears, then, that *-one* has been preserved after monosyllabic bases, whereas *-une* has been generalized in old polysyllabics, e.g.

*āṣṭr-one ‘purity’	to	*āṣṭr-a ‘pure’	
*pārkr-one ‘length’		*pārkr-a ‘long’	
*kāsw-one ‘goodness, virtue’		*kāsw-a ‘good’	
vs.			
*pālṣā-l-une ‘ascetic practice’	to	ger. II *pālṣā-l-a	(subj. II *pālṣ-ä- ‘burn’)
(< *‘burning’)			
*wāla-l-une ‘death’		ger. II *wāla-l-a	(subj. III *wāl-a- ‘die’)
*yātā-l-une ‘ability’		ger. II *yātā-l-a	(subj. V *yātā- ‘be able’)
*kārsā-l-une ‘knowledge’		ger. II *kārsā-l-a	(subj. V *kārsā- ‘know’)
*tṣopātṣ-une ‘size’		*tṣopatṣ-a ‘big’	
*ṣāmān-une ‘monkhood’		*ṣāman-a ‘monk’	

³⁷The same extension of abstract noun to adjective has taken place in *etreññe* ‘heroic’ (B274 b2 *etreññai meyyāsā* ‘by heroic might’) for expected **etréññe* to *etre* ‘hero’.

Other than those to old *-ro- adjectives, the only abstracts which retain *-one* are the common *kāswone* ‘goodness, virtue’, *mokone* ‘(old) age’, *wsokone* ‘joy, happiness’, and *śātone** ‘riches’ (adj. *śātoneṣi*), respectively to *kāsu* ‘good’, *mok* ‘old’, *wsok* ‘happy, joyful’, and *śāt* ‘rich’.³⁸

If this replacement of *-one* with *-une* followed vowel weakening and dephonicization of *ä (§§1.1, 4) — and I know of no reason why it could not have been a late pre-TA change — then *ā, a > Ø (~ ä)* in the second syllable of a disyllabic base would have been reanalyzed as a productive, morphologically conditioned rule in abstract nouns. It follows that the vowel alternation in TA abstracts in *-une*, including verbal nouns in *-l-une*, does not require a regular sound change of second-syllable *a > *ä before *[u].

5.5. Although not all the details have been worked out, I believe that the account offered here explains not only the phonological relationship between the abstract formations of the two languages, but also the evolution and distribution of the allomorphs *-auñe* (*-e_uñe*, *-ewñe*), *-(äñ)ñe* in TB and *-one*, *-une* in TA. The familiar Tocharian verbal nouns in TB *-lläññe* (*-lñe*, *-lyñe*) and TA *-lune* thus turn out to have a common origin after all: PT *-llë-wnəye > pre-TB *-ll-ewññe > *-ll-eññe > TB *-ll-äññe*, *-l(y)ñe*; PT *-llë-wnəye —> pre-TA *-l-one —> TA *-l-une*.³⁹

What is more, the PT abstract suffix *-wnəye now bears an even more striking resemblance to abstract formations in neighboring Eastern Middle Iranian languages. Poucha (1935:260), (1940:208fn.3), (1943:95) first compared TA *-une* and TB *-auñe* with Sogdian *-wny* [-ōnī] and Khotanese *-auña-*, *-oña-*, which likewise derive abstracts from adjectives and nouns.⁴⁰ The Sogdian and Khotanese suffixes appear to reflect a preform *-āwanya- or

³⁸TA *kāsu* ‘good’ (TB *kartse*; suppletive stem TB *krent-*, TA *krant-*) would then continue pre-TA * *kāsw-a-*, but its etymology remains obscure.

Abstract nouns to athematic stems such as *lāntune* ‘kingship’ < PT **lantə-wnəye* (to **lantə*) are of course no exception, but the contrast of *mokone* vs. *klyomune* ‘nobility’ (to *mok* resp. *klyom* ‘noble’; TB *moko*, *klyomo*, obl. *-om*) suggests that stem length was not the only factor involved. In contrast to the redistribution of the stem vowels *-u-* and *-o-* in the preterite participle (§2, end), stress was apparently of little importance in the spread of *-une*: both **ástr-one* and **pärkr-óne* retain *-one*.

³⁹The rare TB variant *-l(l)äñ(ñ)e* (e.g. B521 a1 *yamalläññe*, B554 b2 *weläñe*) may thus be (at least partly) an archaism, rather than a metrically lengthened byform of usual *-l(y)ñe*. Note that aside from abstract nouns in *-äññe*, including verbal nouns in *-l(l)äñ(ñ)e*, examples of such metrical lengthening with epenthetic *ä* are extremely rare (Thomas (1978:145); see R. Kim (2007b:fn.36)). On degemination of *-ññ-*, see fn. 26 above.

⁴⁰See respectively Gershevitch (1954:§1087-9), Sims-Williams (1981:18) and Degener (1989:158ff.), Emmerick (1989:225-6). Old Khotanese *-auña-* (*-oña-*) ~ *-ūña-* is restricted to nouns denoting classes of persons, particularly deities and other spiritual titles, e.g. *arahaṃḍa-*

*-ǎuniya- (Sims-Williams (1981:18), Degener (1989:160)); the latter of which perfectly matches PT *-(ë)wnəye. Poucha deduced that Tocharian had borrowed the suffix, and added this feature to the long list of Iranian borrowings in Tocharian; this view was reiterated more recently by Isebaert (1980:vi) and followed by Sims-Williams (1989:167).⁴¹

If the Tocharian abstract suffix does come from East Iranian *-ǎuniya-, how did this borrowing occur? As a rule, the diffusion of derivational morphology — as opposed to transfer through language shift — occurs in a two-step process: first, speakers incorporate a sufficient number of lexical items from the source language into their speech; then, based on those forms, they analyze the morpheme in question, and apply it to other stems, including “native” stems or those from other foreign sources. We should therefore seek the source of PT *-wnəye in abstracts to stems of Iranian origin, or those which were likely to be borrowed as a whole from Iranian.

The semantic restriction of OKhot. *-auña-* to names of divinities or spiritual officials (see fn. 40) suggests that such items may have been the source of the Tocharian abstract suffix. Among earlier Iranian borrowings in Tocharian, including Indo-Aryan terms which certainly or probably passed through an Iranian intermediary, we may now securely assign titles such as

- PT *arantë ‘arhat’ (TA *ārānt*; TB *arhānte*, *arahānte* influenced by the Skt. form) <— MIA *arahant- < OIA *arhant-*;
 PT *rəyşəkë ‘r̥ṣi, sage’ (TA *rişak*; TB *rşāke* influenced by Skt. *r̥ṣi-*?) <— MĪr. *rişaka- <— OIA *r̥ṣi-* (cf. Sogd. *rš’k*, *rš’y*, Khot. *rişaya-*);
 PT *şamanë ‘monk’ (TB *şamāne*, TA *şāmaṃ*) <— MĪr. *şamana- <— MIA *şamaṇa- < OIA *śramaṇa-* (cf. Sogd. *šmn*, Khot. *şşamaṇa-*);
 PT *katakä ‘householder’ (TB *kattāke*; TA *kātāk* for **kātak* backformed to abstr. *kātakune*) <— MĪr. *gāṭa-ka- <— MIA *g(r)ahaṭha- < OIA *gṛha-stha-* (cf. Sogd. *k’rt’k*, *k’rtk*, Khot. *ggāṭhaa-*; Bailey (1937:905), (1946:791-2));⁴²
 PT *kamartë ‘majesty’ (TA *kākmart*, influenced by *kāk-* ‘call’) <— Bact. *καμῖρδο* ‘head; chief (god)’ < OĪr. *kamṛda- (cf. Khot. *kamala-* ‘head; person; beginning’, Av. *kamərəda-* ‘head (daēvic)’); and

‘arhat’, *balysa-* ‘Buddha’, *bahuśruta-* ‘scholar’ —> *arahand-oña-* ~ *arahaṃd-ūña-*, *balys-ūña-*, *bahuśrut-ūña-*. In Late Khotanese, this suffix comes to be used with other nominal bases, including *nomina agentis*, participles, and other adjectives; cf. *cakkravartta-* ‘Weltherrscher’, *atīsamḍaa-* ‘Nichtumkehrer’, *kastara-* ‘subordinate (n.); small(er)’, *tsāta-* ‘rich’ —> *cakkravarttauña-*, *atīsamḍauña-*, *kastarauña-*, *tsātauña-*. The relatively infrequent Sogdian [-ōnī] appears to have no semantic restriction, and is added to both nouns and adjectives, e.g. C *frtr-wny*, M *frtr-wnyy* ‘improvement’ <— *frtr* ‘more’, B *γδ-* ‘wny’ ‘theft’ <— *γδ-* ‘thief’.

⁴¹On the other hand, Winter (1961:278) and Van Windekens (1980:121-3) suggest that the origin of PT *-wnəye lies in *n*-stem bases, e.g. PT *klʷom-o, *-ən- ‘noble’ (TB *klyomo*, TA *klyom*) —> *klʷoməwnəye ‘nobility’ (TB *klyomñe*, TA *klyomune*).

⁴²I am indebted to Yutaka Yoshida for calling these references to my attention.

PT *kamartikē ‘id.’ (TB *kamart(t)ike*, TA *kākmārtik*) ← Bact. *καμριδιγο (Schwartz (1974:411), Sims-Williams (1997:23), Pinault (2002:262-4)).⁴³

The corresponding East Iranian abstract nouns denoting the state of holding the title or being the particular divinity, e.g. *kamarta-wniya-, *rišaka-wniya-, could have been taken over by bilinguals into (pre-)Proto-Tocharian, as *kamartē-wnəye (→ TB *kamart(t)-āññe*, TA *kākmārt-une*), *rəyšəkē-wnəye (→ TB *ršāk-āññe**, TA *rišak-une*). Once Tocharian had adopted enough such pairs of base and derived abstract, speakers could begin to add this morpheme to native bases as well, including adjectives and particularly gerundives, to form verbal nouns. Eventually, PT *-wnəye was generalized as *the* suffix of verbal nouns, making it by far the most productive of all Iranian-origin morphemes in the language.⁴⁴

⁴³If not formed in PT itself with the suffix TB *-ike*, TA *-ik* (of Middle Iranian origin, see fn. 44), as Pinault (2002:279) proposes for PT *krəytanikē ‘grateful, devoted’ (TA *kritānik*; TB *krātanīke*) to PT *krəytanə ‘gratitude’ (TB, TA *kritām*) ← Bact. *κῑρδανο ‘service’.

Also probably borrowed from Bactrian are TB, TA *spaktām* ‘service’ and its derivative TB *spaktanīke*, TA *spaktānik* ‘servant, minister’ ← Bact. *σπαχτανιγο (attested σπαχνιιο; Winter apud Schwartz (1974:411), Sims-Williams (1997:23), Pinault (2002:263-4)), if not created within Tocharian like TB *kamart(t)ike*, TA *kākmārtik*. However, the vocalism of TA *spaktām* and *spaktānik*, for expected **spāktam* and **spāktanik*, suggests that they are later borrowings or adaptations from TB (cf. Isebaert (1980:68), (1981:39), Schmidt (1997:22)).

⁴⁴Contrast the feminine suffix TB *-āñca*, TA *-āñc* ← Sogd. *-’nc* [-añc] (< *-āničā or *-ānačī + -ā; Bact. *-αυζο*), which is restricted to a handful of titles, e.g. TA *kānikāñc* ‘girl’ ← Mlr. *kanikā- (Sogd. *knc* ‘girl’, Ossetic *kinzæ/čynz* ‘bride, daughter-in-law’; cf. Av. *kainiiā-* ‘unmarried girl’), TB *upāsakāñca**, TA *wāskāñc* ‘female lay-disciple’ ← TB *upāsake*, TA *wāsak* ‘male lay-disciple’ (SSS:30, TE I:121, Isebaert (1980:v-vi), Van Windekens (1980:125-6)). Similarly, TB *-ike*, TA *-ik* ← Mlr. *ika- (cf. Bact. *-ιγο*) occurs only in certain nouns denoting positions or titles, e.g. TB *spaktanīke*, TA *spaktānik* ‘servant, minister’ to TB, TA *spaktām* ‘service’; see TE I:147, Isebaert (1980:vi), Van Windekens (1980:114-5) and fn. 43 above.

Previously I hypothesized that the the borrowing was rather in the opposite direction, from Tocharian into Eastern Middle Iranian, for two reasons: the abstract suffix is so completely integrated into the grammar of Tocharian that it is unlikely to be of foreign origin; and pace Emmerick (apud Emmerick and Skjærvø (1987:16)), who derives OKhot. *-auñā-* “from the IE. possessive suffix *-*uen-/yon-* with the addition of the suffix *-*ya-*, which makes an abstract noun out of adjectives”, I am aware of no evidence for either poss. *-wan- (as opposed to *-want-) or an abstract-forming *-ya- in Iranian. However, Nicholas Sims-Williams (p.c.) has called my attention to Parthian *whywn* ‘betterment’, which indicates that this suffix must be native to Iranian. The absence of identifiable Tocharian loanwords in Sogdian or Khotanese also suggests that PT *-wnəye should be added to the long list of Iranian influences on Tocharian.

6. Conclusion

We have seen that the two seemingly secure examples of weakening of pre-TA second-syllable *a (including *a from earlier *ā) to *ä > TA Ø ~ ä before a following *äw (= *[u]) may be explained very reasonably through subsequent morphological reanalyses. In the case of Class II preterite participles, intraparadigmatic leveling between the stems of the masc. nom. sg. (and fem. nom., obl. sg., nom./obl. pl.) and the other masculine case/number forms led to generalization of the suffixal vowel of the former and the weakened root vowel of the latter, e.g. PT masc. nom. sg. *të-tëm-əwə (fem. *të-tëm-əwsa) ~ masc. obl. sg./nom. pl. *të-tëm-əṣə > pre-TA *tatamäw ~ *tatamaṣ > *tatamäw ~ *tatāmaṣ > *tatamäw ~ *tatmaṣ → *tatmu*, *tatmuṣ* ‘born’. As for TA abstract nouns in *-une*, comparison with TB allows us to recover the PT situation, in which *-wnəye was suffixed to adjectival and nominal stems of all types, thematic or otherwise. The contrast between PT *-ë-wnəye and *-ə-wnəye is partially preserved in TB stressed *-áũñe* (*-e,ñe*, *-ewñe*) vs. *-úññe*, but TA has generalized *-une* to most originally thematic formations, including verbal nouns derived from the gerundive II.

Neither preterite participles in *-u* nor abstract nouns in *-une*, then, require TA vowel weakening *as a sound change* in this environment. In the absence of any secure, morphologically isolated examples of such weakening, and given the evidence against weakening before *äy and probably also *äw (§1.2), I conclude that the second stage of vowel weakening was indeed confined to pre-TA forms with “full vowel” *a, *ā, *e, or *o in *both* the first and third syllables. It is tempting to suppose that primary stress in pre-TA came to fall on the first full vowel, with secondary stress following two syllables after; thus the stress pattern in such forms was *V́ V̀ V̀, e.g. nom. pl. *áknātsāñ ‘ignorant’, pret. 2sg. *pékātè ‘you wrote (yourself)’, (obl. sg./)nom. pl. *tátamàṣ ‘born’, *kākārpàw ‘(having) descended’. The raising of *ā > *a after a primary stressed syllable, and further raising of *a > *ā between stressed syllables, would then be phonetically most natural.

Whatever the exact phonetic details, we may now add the first and second stages of vowel weakening to the long series of securely reconstructible sound changes in TA which later become opaque through subsequent sound changes and morphological remodeling. It is the continued discovery of such developments, and their effects on the structure of the languages as a whole, which will lead us to an ever clearer picture of Tocharian linguistic history.

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Vowel Weakening in Tocharian A Preterite Participles and Abstract Nouns

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Abstract

The phonology of Tocharian A (TA) has been extensively affected by two vowel weakenings, $*\bar{a} > *a$ and $*a > *ä$, but the precise conditions for the second change have not yet been fully clarified. This paper demonstrates that pre-TA $*a$ in second syllables was raised to $*ä$ only when the first and third syllables both contained one of the full vowels $*a$, $*\bar{a}$, $*e$, $*o$. The two main exceptions to this pattern, preterite participles and abstract nouns, may be explained otherwise. In preterite participles such as *tatmu* ‘born’, $*a$ was regularly raised to $*ä$ in oblique case forms. Once the syncope of $*ä$ in open syllables had made vowel weakening opaque on the surface, this paradigmatic alternation was unsurprisingly leveled, and the stem vocalism of the oblique forms was generalized. As for abstract nouns, the most common suffix *-une* has spread at the expense of its allomorph *-one*, so that the weakening in forms like *yātlune* ‘being able, ability’ $< *yātā-$ or *šāmnune* ‘monkhood’ $< *šāman-$ can also have been a regular development. Comparison of TA *-une*, *-one* and Tocharian B *-(äñ)ñe*, *-auñe* allows us to reconstruct a single Proto-Tocharian suffix $*-wnəye$, which was borrowed from Middle Iranian.