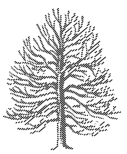
Farnah

Indo-Iranian and Indo-European Studies

in Honor of

Sasha Lubotsky



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The Phonology of Tocharian B *okso* 'ox'

JAY H. JASANOFF

The etymology of TB *okso* 'ox' (obl. *oksai*, pl. nom. **oksaiñ*, obl. *oksaiṃ*; cf. TA nom. pl. *opsi*, with *-ps-* < **-ks-*) has never been in doubt. It is the familiar PIE "ox" word, represented by Ved. *ukṣā́*, pl. *ukṣáṇaḥ*, MW *ych*, pl. *ychen*, OIcel. *oxi*, pl. *yxn*, etc., and standardly reconstructed as a hysterokinetic *n*-stem **uks-én-*, **uks-n-ˊ*. In a recent study, Höfler (2015:231–2) has proposed an inner-IE derivational history for this word under which the apparent suffixal *o*-grade of the Tocharian form, along with the West Germanic nom. sg. in *-ō̄* (cf. OHG *ohso*, OE *oxa*),[1] would be an archaism rather than a post-IE substitution of amphikinetic **-ō* for hysterokinetic **-ēn*. The "deep" etymology of "ox," however, is not our concern here. What matters, for our present purposes, is that Toch. B *okso* must somehow go back to a post-IE nom. sg. **uksō̄*.[2]

How the inner-Tocharian phonology would have worked is unclear. According to the standard view, PIE **ō*, which uncontroversially gave **a* (> TB *ā*, *a*; TA *ā*) in non-final syllables in Proto-Tocharian, should have gone to **-ū*, whence **-u* (i.e., **-əw*)[3] in absolute final position. This is a well-established doctrine. Ringe (1996:89–90), citing earlier work by Normier, Penney, and Pedersen, lists the following examples:

> PIE **d*(*u*)*u̯óh*$_1$[4] 'two' > PT **wú* > TA masc. *wu*
> PIE **ḱ*(*u*)*u̯ṓ* 'dog' > PT **kú* > TB, TA *ku*
> PIE **h*$_2$*n̥tb*^{h}*óh*$_1$'both' > PT **antpú* > TA fem. *āmpuk*
> PIE 1 sg. **-oh*$_2$ > PT **-u* in TB 1 sg. subj. *āyu* 'I will give', *yāmu* 'I will do', etc.
> PIE **okṓ*(*u̯*) (*sic*) 'eight' > **ækú* > **ṇktú* (*u*-uml.) → PT **ṇktə́*[5] > TB *okt*, TA *okät*

Another case is adduced by Pinault (2008:421–2), who makes the rule more general, extending it from absolute auslaut to a wider range of final syllables:

[1]With hyperlong, or "trimoric" **-ō̄*, here indicated by a second macron. As I have argued elsewhere (first in Jasanoff 2002:35–8), PIE inherent long vowels in absolute final position received a quantum of extra length in Germanic and Balto-Slavic.

[2]Note there is no extra-Tocharian evidence for a labiovelar. Höfler (*ibid.*) identifies the underlying root as **h*$_2$*eug-* 'increase'.

[3]The vowels sometimes written **i* and **u* in Proto-Tocharian reconstructions were underlyingly and phonetically the diphthongs **əy* and **əw*. Except in monosyllables and in cases of analogical restoration, diphthongs were the only source of final vowels in Toch. A.

[4]I write **h*$_1$ and **h*$_2$ for Ringe's **x́* and **x*, but otherwise retain his notation.

[5]With substitution of **-ə* from the adjacent numerals for '7', '9', '10'. The expected *-u* appears in *oktuk* '80'.

PIE *-u̯ós* (perfect active participle) > TB, TA *yāmu* 'done, having done'[6]

But if final *-ō gave *-u*, what was the origin of the *-o* of *okso* and the numerous other *n*-stems in Tocharian, both relatively old (e.g., B *klyomo* (pl. *-oñ*), A *klyom* 'noble', B *śaumo* (pl. *śāmna*) 'man', A *śom* 'boy') and relatively new (e.g., B *oṅkolmo* (pl. *-añ*), A *oṅkalam* 'elephant')? Ringe (1996:10–1), followed by Pinault (*ibid.*), considers three possible sources for this ending: a) *-ōn, with *-n* analogically restored, as in Gk. *ákmōn* 'anvil', *telamṓn* 'strap', etc.; b) disyllabic *-oh₁ō(n), i.e., the nom. sg. of an *n*-stem with the "Hoffmann suffix," as in OAv. *maθraā* 'proclaimer of the *maθra-*, prophet'; and c) *-ōnts, proper to *nt*-stems of the type B *walo* 'king', obl. *lānt* (*ibid.*). None of these choices are attractive. Tocharian, like Latin and Old Irish, shortened long vowels before final nasals; this is why we find, e.g., B nom. sg. *kantwo* 'tongue' < *-å < *-ā beside obl. sg. *kantwa* < *-a < *-ăn < *-ām (cf. Lat. *linguăm*, OIr. *bé* 'woman' < *bĕn < *gʷēn). It follows that the Toch. B reflex of pre-Toch. *-ōn would more likely have been *-e < *-ą < *-ŏn (cf. *kante* '100' < *-*om*) than *-o*. As for a pre-Toch. nom. sg. in *-oh₁ō(n), Tocharian may well have inherited a nucleus of "Hoffmann" *n*-stems. But there is no evidence that such forms were ever widespread or productive, and no independent reason to believe that Tocharian ever had a Germanic-like distinction between normal (bimoric) and hyperlong (trimoric; see n. 1) long vowels.[7] Finally, in the *nt*-stem *walo*, the attested *-o* was probably not the phonological reflex of *-ōnts at all; see below. *Pace* Pinault, the only demonstrable treatment of *-ō- in final syllables where it was *not* in absolute Auslaut was PT *-a-, as in non-final syllable environments (cf. nom.-acc. pl. fem. B *yāmuwa* < nt. pl. *-u̯u̯ōs).

All of this would be genuinely puzzling if the standardly assumed change of *-ō# to *-u# were well-supported. But it is not. Three of the forms regularly cited in support of the rule—the words for "two" (A *wu*), "both" (A *āmpuk*), and "eight" (B *okt*, A *okät*)—are historically duals, and hence plausibly referable not to *-ō but to *-ōu < *-oh₁(u) (cf. Ved. *-ā*, *-āv*, *-au*; Go. *ahtau*). The participial nom. sg. masc. in *-u* (BA *yāmu*) is not from a masculine nom. sg. in *-u̯u̯ōs, which would have given *-uwa, as in the homophonous neuter (> fem.) pl. (cf. above), but from the neuter sg. in remade *-u̯u̯us, whence PT *-ɘwɘ and BA *-u*.[8] Most tellingly, the 1 sg. in *-u* (athematic!) and *-au* (thematic), which are confined to Toch. B, are better explained as lenited forms of PIE *-mi, which survives as *-äm* (athematic) and *-am* (thematic) in Toch. A; for the Toch. B change of *-m- to *-w- compare B masc. *su*, fem. *sāu*, nt. *tu* 'that one' beside A *säm*, *sām*, *täm* 'id.', and B *wāki* 'difference' (< *-ɘwʸɘ < *-(ɘ)men) beside A *wakäm* 'id.'.[9] The list of potential examples of the change of final *-ō to *-u thus

[6] Pinault's further derivation (2008:611) of the Tocharian infinitive in BA *-tsi* from *-tsɘ + *i*, where *-tsɘ < *-tsu < PIE *-*ah₂i̯ōi*, is of no probative value; see Fortson 2013:54–5 for full discussion. In A *ñuk* 'I (fem.)', taken by me (Jasanoff 1989:134–5) from *ñəku < *[n]eǧō, it is not necessary to assume that the rounding agent was specifically *-u* as opposed to one of the other rounded vowels, *-å or *-o*; see below.

[7] I am myself partly to blame for bringing the Hoffmann suffix into the discussion of these forms, having ill-advisedly proposed *-*oHō* as the source of Gmc. trimoric *-ō̄ in Jasanoff 1980: 379–81. The error was retracted in Jasanoff 2002:36–7 n. 17.

[8] On the reconstruction and phonology of the forms of the past participle, see Þórhallsdóttir 1988:184–91 (where, however, the *-a* of the fem./nt. pl. is said to be analogical).

[9] The exact conditioning of the rule is disputed; see the discussion (with literature) by Malzahn (2010:29–30).

reduces to BA *ku*, where the possibility of contraction or assimilation to the *-*w*- (< **kuwV*? **kwV*?) leaves the identity of the final vowel indeterminate.[10]

The purported sound law *-*ō* > *-*ū* > -*u* can thus be discarded. The claim of this small *hommage* to my friend Sasha is that "late" (i.e., post-laryngeal loss) PIE *-*ō*, which normally gave PT *-*a*, fell together with post-laryngeal-loss PIE *-*ā* in absolute final position, giving PT *-*å* (whence conceivably later PT *-*o*)[11] and TB -*o*. The subsequent phonological history of the "ox" word, I will argue, was defined by a single phonological rule—the lowering of word-initial **u*- to **o*-—and a conspicuous *non*-change—the failure of the resulting **o*- to participate in the otherwise normal unrounding of **o* to **ä*.

An early lowering of initial **u*- to **o*- (*vel sim.*) in Tocharian is suggested by the treatment of the PIE negative prefix *$*n̥$*-, which ought to have given **ən*- ⟨än-⟩, but which in fact regularly appears as PT **än*-, as if from PIE **on*- (cf. B *etaṅkätte* = A *atäṅkät* 'unhindered', B *eṅklyausṣätte* 'unheard of', etc.). In theory, the phonetic development in these forms could either have been a lowering of **ə*- (probably [ɨ]) to *ʌ-, with later fronting to **ä*-; or—if Adams (1984:397–8) is right in thinking that the PIE syllabic resonants passed through a stage **uR* on the way to **əR*—a lowering of initial **u*- to **o*- directly, with later unrounding of **o* to **ä* via *ʌ. The latter scenario has not been much discussed, partly because initial **u*- has been thought to give **wə*- in Tocharian,[12] and partly because the purported development of *$*R̥$* to **uR* is supposedly ruled out by the failure of pre-Toch. *-$*R̥$*- to induce labialization in a preceding velar.[13] But these positions too need to be re-examined. The evidence for the **u*- to **wə*- change is very weak. Typical of the forms adduced in its support is the adjective B **wriye* 'watery' (in *wrīyeṣṣe* 'id.'), matching A *wri* 'id.' and supposedly going back to PIE **udriio̯*- (Ringe 1996:127). The **w*- in this word, however, is not prothetic, but an import from the underlying noun **wər* 'water', where no fewer than three post-IE stem variants (*$*uo̯d*$*- > PT **wär*-, *$*ued*$*- > PT **wʸər*-, **udr*- > **ər*-?) may have gone into the creation of the form as we have it.[14] The non-labialization of pre-Toch. *$*kR̥*$*- to **kwəR*- or **kʷəR*- is a red herring; the expectation that the **k*- in a "real" **kuR*- sequence would have been labialized is not supported by any actual example. The economical assumption, therefore, is that the development of the privative prefix was *$*n̥*$*- > **un*- > **on*- (> **än*-), and that the rule that lowered **un*- > **on*- also had the effect of lowering of **ukså* to **okså*.[15]

But if lowering was the source of the initial **o*- of the "ox" word, why did the newly

[10] Thus, if *-*ō* gave PT *-*å*, as maintained below, PT **käw* ("**ku*") < **kū* could be either the regular contraction product of **kuwå* or a special development of **kwå*. Neither possibility is ruled out by B nom. sg. *suwo* 'pig' and *luwo* 'animal', which look like they were back-formed from their phonologically regular obliques, *suwa* (< **suH-m*) and *luwa* (< **luHs*-∅), respectively. In "dog," where the oblique was the anomalous B *kweṃ*, A *koṃ*, the nom. sg. is more likely to be phonologically regular.

[11] Since PT **o* and **å* fell together in Toch. B and both were lost word-finally in Toch. A, it is impossible to distinguish final *-*o* and *-*å* in PT reconstructions. In what follows I write *-*å* for all stages earlier than the attested languages.

[12] So, e.g., by Hilmarsson (1982:160), followed by later writers. The existence of such a rule is suggested by the development of initial **i*- to **yə*- (cf. B *ytārye*, A *ytār* 'road'). But the cases are not parallel: a prothetic **y*- also developed before **e*- (cf. B *yakwe*, A *yuk* 'horse' < *$*ek̂u̯*$*-), but not before **o*- (cf. B *ek*, A *ak* 'eye' < **okʷ*-).

[13] So Ringe 1991:81–3, repeated in Ringe 1996:67.

[14] Also widely cited is B *wästarye* 'liver'(?), compared with the family of Gk. *hustérā* (< **ud*-) 'womb' by Van Windekens (1976:565), and followed by Hilmarsson (*ibid.*), Adams (1988:17), and Ringe (1996:71). But even if the etymology is correct, which is far from clear, the full grade of Lith. *vėdaras* 'belly' shows that the Tocharian form could have begun with a real *$*u̯*$*-*.

[15] On TA *ops*-, which confirms the reconstruction without an initial **w*-, cf. Pinault 2008:432–3.

lowered vowel fail to undergo unrounding like the **o-* of the privative? For the answer, we have only to look at two forms in which the privative prefix was *not* unrounded, namely, B *ontsoytte* 'insatiable' and B obl. *oṅkrocce*, A *oṅkrac* 'immortal'. *ontsoytte* is the regularly formed privative of *soy-* < **såy-* 'be sated', presupposing a present **sāi̯e/o-* or **sādi̯e/o-* and going back to the root **seh₂(i)-* 'id.' (cf. Gk. *áetai* 'becomes sated', OIr. *sáith* 'satiety', etc.). In *oṅkrocce*, *oṅkrac* the root etymology is unknown,[16] but the correspondence B *-o-* = A *-a-* points unambiguously to **-å-* in the second syllable. The failure of the vowel of the prefix to unround in these forms must have been due to the rounded **-å-* that followed. The operative rule or process has been characterized as a form of umlaut, e.g., by Adams (1988:21–2: "rounded vowel umlaut"), Ringe (1996:163: "*o*-umlaut"), and Pinault (2008:431–8: "Umlaut par **-õ* et **å*"). But umlaut is properly a sound change, like *i*-umlaut in Germanic, which was a fronting rule, and *a*-umlaut in Tocharian (e.g., **lʸœka* > **lyaka* > B *lyāka*, A *lyāk* 'saw'), which was a lowering rule. Since the PT initial **o-* of our forms was either rounded from the beginning, as in *okso* < PIE **u-*, or rounded very early in the post-IE history of Tocharian, as in *on-* < **un-* < PIE **n̥-*, the "umlaut" in these cases is probably better thought of as a constraint against *un*rounding when a rounded vowel followed. The same can be said for the supposed "*u*-umlaut" in BA *or* 'wood', where the expected unrounding was blocked by **-u* (PT **orə* < **doru*), and in B *okt*, A *okät* '8', where the blocking agent was the reflex of **-ōu*, perhaps while this was at the **-ū* stage.[17] The only true umlaut by a rounded vowel in Proto-Tocharian was the change of **a* (< post-IE **ă*, "**ə*," etc.) to **å* before **u* and **o*. The umlauting effect before **-u* can be seen in B *soy* 'son' < pre-PT **såyu* < **swåyu* < **swayu* < **suh₂,₃i̯u-*). In the much better-attested case of **a* followed by **o* the phonetic influence was bidirectional: **a . . . o* became **å . . . å* in what I have called "mutual rounding assimilation" (cf. B *wokotär*, A *wakatär* 'blooms' < PT **wåkåtər* < **wa̯go-*).[18]

Our finding that the **-å* of PT **okså* was the phonological reflex of PIE final **-ō* has important consequences. At the most immediate level, it explains the amphikinetic *i*-stem inflection of "ox" outside the nom. sg. (cf. obl. sg. *oksai* < **-ōi̯n̥* (for **-oi̯n̥*),[19] nom. pl. **oksai*[*ñ*] < **-ōi̯es* (for **-oi̯es*) + *-ñ*, obl. pl. *oksaiṃ* < **-ōi̯n̥s* (for **-oi̯n̥s*), etc.). The immense productivity of the amphikinetic *i*-declension in Tocharian, and especially in Toch. B, is well-known.[20] But the mechanism by which this inflection—familiar in Greek as the

[16] Etymological proposals, none convincing, can be found in Adams 2013 s.v.

[17] Adams (1988:21–2) presents *o-* and *u*-umlaut as "a condition on possible vowel sequences"; compare Ringe 1996:98. There seems to be no good reason to posit universal unrounding followed by selective rerounding in these cases.

[18] The term is meant to echo Adams' "mutual rounding," though Adams' understanding of the process (e.g., in Adams 1988:21) is quite different from mine. Mutual rounding assimilation did not take place when the **o* was in a final syllable (cf. B *āke* 'end', *pāke* 'part', etc.), showing that PIE **o* was unrounded to **ʌ* in final syllables before it lost its rounding elsewhere. The same early unrounding explains why there was no retention of rounding in the root syllable of "*tomos*" type thematic nouns; a form like quasi-PIE **dʰu̯oro-* 'door' gave B *twere* (< PT **twœrɐ* < **twʌrʌ*), not B **twore* (PT **tworɐ* < **tworʌ*), because the second vowel had already lost its rounding at the time when the **-o-* in the first syllable would have been subject to the main unrounding rule.

[19] For ease of exposition, *a*-umlaut effects on the first syllable are ignored in the following discussion. I reconstruct **-ōi̯n̥* (> PT **-ay*) rather than **-oi̯n̥* in the acc. sg. because **-oi̯n̥* would probably have fallen together, via the intermediate stage **-ʌyə(n)*, with PIE **-oi* and **-ai*, whence PT **-ʌy* ∼ **-œy* and TB *-i*, TA *-e* (cf. nom. pl. masc. B *astari*, A *āṣtre* 'pure'). Independent evidence for the spread of **-ō-* from the nom. sg. can be seen in non-"iotacized" *n*-stem forms like nom. pl. B *oṅkolmañ*, A *oṅkälmāñ*, with PT **-mañə* < **-mōnes*. Parallel to the change of **-ōi̯n̥* to PT **-ay*, I further assume that **-ēi̯n̥* would have given PT (palatalizing) **-œy*, whence again TB *-i* and TA *-e* (see below).

[20] It would go far beyond the scope of this article to discuss the views of scholars who reject the *i*-stem analysis of the

"*Sapphō*-type"—spread through the language has always been something of a mystery. Under the quasi-standard assumption that PIE **-ō* gave TB *-u*, and that TB *-o* must therefore go back either to post-PIE **-ā* (as in *kantwo*) or to one of the modified *n*-stem endings **-ōn* or **-oh₁ō(n)*, there would have been no formal overlap between an *n*-stem like "ox" and an amphikinetic *i*-stem like the ancestor of TB *yoko* (also *-iye*) 'thirst' (root **h₁eǧ^{wh}-* 'drink'). To appreciate this, consider the relevant nom. sg. and acc. sg. forms. If the amphikinetic *i*-stem nom. sg. in **-ŏ̄i(s)* was remodeled to **-ō*, as in Greek (*Sápphō*) and Vedic (cf. *sákhā*, acc. *-āyam* 'friend'), nouns of the *yoko*-type would *ex hypothesi* have come out in Proto-Tocharian with a nom. sg. in **-əw* < **-ū* < **-ō* and an acc. sg. (= oblique) in **-ay* < **-ōi̯m̥* (for **-oi̯m̥*). The *okso*-type, on the other hand, would have had a nom. sg. in **-o* < **-ōn*/**-oh₁ō(n)* and an acc. sg. in **-an* < **-ōnm̥* (for **-onm̥*), *vel sim*.[21] There would thus have been no reason for the two paradigms to merge. Yet merge they did. The reason was that PIE **-ō*, contrary to the scenario just presented, did *not* give PT **-əw* < **-ū*. It gave PT **-å* in both declensions:

	Amphikinetic *n*-stem	Amphikinetic *i*-stem
nom. sg.	PT ****okså*** < **uksō*	PT ****yok^{w}å*** < **ēǧ^{wh}ō* ← **ēǧ^{wh}ŏ̄i(s)*
acc. sg.	ʔPT **oksan* < **uksōnm̥* ← **uksonm̥*	PT ****yok^{w}ay*** < **ēǧ^{wh}ōi̯m̥* ← **ēǧ^{wh}oi̯m̥*

The identity of the nom. sg. forms—**okså* and **yok^{w}å*—was the basis for the amalgamation of the two types.

Many traditional problems of Tocharian grammar come together in the history of *okso* and *yoko*: the origin and diffusion of the nom. sg. in TB *-o*, the various transformations undergone by *n*-stems, and the relationship of the "*-ai*-series" of endings (TB *-ai*, *-aiñ*, etc.) to the less straightforward but obviously related endings of the "*-i*-series" (TB *-iye*, *-i*, *-iñ*, etc.). A few remarks can be made about each.

Other forms in TB -o. The nom. sg. of amphikinetic *n*-stems was uncontroversially reduced to **-ō* in late PIE, with phonologically regular loss of the etymological word-final **-n*.[22] With these forms as a starting point, the rule deleting the stem-final consonant in lengthened-grade nom. sg. forms was analogically extended to different kinds of stems in different branches of the family. Thus, as is well-known, Indo-Iranian deleted final **-r* (*pitā́*, etc.) and final **i̯* (*sákhā* = OAv. *haxā*) in addition to **-n*; Lithuanian deleted not only **-n* and **-r*, but also final **-s* in the *s*-stem *mẽnuo* 'month'; Greek restored final *-n* in *n*-stems (*ákmōn* 'anvil', etc.), but deleted **-i̯* in the *Sapphō*-type; and so on. Besides the cases already discussed, Tocharian extended bare **-ō* to two other forms: 1) the amphikinetic *u*-stem B **poko* 'arm', obl. *pokai* (= A *poke*) < PT nom. sg. **påkå*[23] < **b^{h}āǧ^{h}ō*, with **-ō* replacing **-ŏ̄us* (cf. GAv. *-bāzāuš*); and 2) the amphikinetic *nt*-stem B *walo*, obl. *lānt* (= A *wäl*, *lānt*), with PT nom. sg. **wəlå* < **u̯l̥(l)ō* replacing **u̯llōnts* (*vel sim*.). Further such cases may be waiting to be discovered.

-ai-endings altogether. Other attempts to explain these forms either make appeal to cases other than the accusative (so, e.g., Peyrot 2012), or rely on a putative sound change of **-ñ-* to **-i-* (so, e.g., Pinault 2008:483–5). Neither approach, in my opinion, is satisfactory.

[21] Another possibility is discussed below.

[22] But **-n* was retained in hysterokinetic **-ēn*; cf. Jasanoff 2002:34–5.

[23] With apparent raising of **på-* to **po-* in pre-Toch. A, as also in A *pont-* 'all' < PT **pånt-* < **pānt-*.

Other kinds of n*-stems*. Besides *n*-stems with nom. sg. in **-ō*, Tocharian inherited originally hysterokinetic *n*-stems with a nom. sg. in **-ē* (for PIE **-ēn*). The clearest early example of this type is **kau$_u$rṣe* 'bull', obl. *kau$_u$rṣ* (= A *kayurṣ*), a compound of "cow" (B *ke$_u$*) and the word for "male" or "bull," PIE **u̯r̥sēn* (cf. Ved. *vr̥ṣaṇ*, Gk. *ársēn*). The hysterokinetic nom. sg. in **-ē* gave PT palatalizing **-æ*, while the acc. sg. in **-enm̥/*-enn̥/*-ənən* was simplified to **-en/*-ən*, giving PT **-Ø*.[24] Words of this type were the locus of the synchronic Toch. B rule that nouns with a nom. sg. in **-C^{y}e*, which are very numerous, form their obliques in bare **-C^{y}* < **-C^{y}ə* (cf. *kektseñe* 'body', obl. *kektseñ*; *meñe* 'moon', obl. *meñ*; etc.). It is conceivable that there was a parallel reduction to **-on* (or **-ʌn* or **-æn*) in the *o*-grade acc. sg. in **-onən* < **-onn̥* < **-onm̥*; if so, the "expected" obl. sg. of a word like PT **okså* would have been PT **oksæ* < **-on*, rather than **oksan* < **-an* < **-ōnm̥*, the form tentatively proposed above. We can never know what the "real" oblique ending would have been in such cases, since the amphikinetic *n*-stem ending, whatever it was, was systematically replaced by **-ay*.[25]

TB -iye*, etc.* Nouns of the type B *okso* and *yoko*, whatever their etymology, frequently have alternative nom. sg. forms in *-iye*; cf. *yokiye* beside *yoko*, *proskiye* 'fear' beside *prosko*, *śconiye* 'hatred' beside *ścono*, *koṣkiye* 'hut' beside *koṣko*, etc.[26] Sometimes only the longer variant is attested, as in *oskiye*, obl. *-ai* 'habitation' and *kaumiye*, obl. *-ai* 'pond'. The *-iye* in these forms never palatalizes the preceding consonant, showing that it cannot go back to **-i̯i̯os*, **-i̯i̯ē(n)*, or any other sequence beginning with a front vowel. The simplest interpretation is that the accusative/oblique in pre-TB **-ay* was identified with other obliques ending in a "soft" consonant and supplied with a back-formed nominative in **-ay* + *-æ* (**yok^{w}ayæ*, etc.). The **-a-* in the sequence **-ayæ* was then raised to *-i-*, too late to cause palatalization.[27] A parallel series of forms developed in hysterokinetic stems. In a word like B **alyiye*, obl. *ālyi* 'palm (of the hand)', the starting point was a hysterokinetic *n*-stem in nom. sg. **-ē* (for **-ēn*), the Tocharian cognate of Gk. *ōlḗn* 'mat' (< **'flat surface'), a byform of *ōlénē* 'lower arm, mat'. Copying the amphikinetic pattern, the hysterokinetic nom. sg. in **-ē* was supplied with an accusative/oblique in **-ēi̯n̥*, as if to a hysterokinetic *i*-stem in **-ĕi-* that may or may not have independently existed as a type. The result was a PToch. oblique in palatalizing **-æy*, whence TB *-i* (*ālyi*) and TA *-e* (*āle*).[28] PT **-æy* in turn became the basis for the back-formation of a nom. sg. in palatalizing **-æyæ* > PT **-iyæ* (B *alyiye*), exactly paralleling the back-formation of **-ayæ* (> B *yokiye*) to **-ay* (> *yokai*).

A full-length, theoretically informed study of these forms would no doubt reveal much else of interest about their morphological and derivational history. This, however, must remain a task for the future.

[24] I leave open the question of whether the phonetic process was a Neogrammarian sound change or a haplological reduction of **-nən* to bare **-n*.

[25] Except, of course, in BA *ku* 'dog', where obl. B *kweṃ* and A *koṃ* point unambiguously to **-onən*. But this word was in every respect atypical; cf. n. 10.

[26] Toch. A sometimes has *-e* in these forms, corresponding to the Toch. B oblique (e.g., A *yoke* = B *yokai*, A *oṣke* = B *oskai*), and sometimes *-i*, corresponding to the Toch. B nominative in *-iye* (A *praski* = B *proskiye*, A *slyi* 'line' = B *sälyye*).

[27] A striking parallel can be cited from Old English, where the class II weak verbs in **-ō-* (3 sg. **-ōþ*, 3 pl. **-ōnþ*, infin. **-ōn*) replaced some of their forms by longer forms in **-ōja-* (3 pl. **-ōnþ* → **-ōjanþ*, infin. **-ōn* → **-ōjan*, etc.). The **-ō-* in the sequence **-ōja-* was subsequently raised to *-i-*, but too late to cause *i*-umlaut or gemination. Typical forms are thus 3 sg. *lufaþ* 'loves', pl. *lufiaþ*, infin. *lufian*. The facts are described in Cowgill 1959.

[28] With secondarily depalatalized *-l-* before **-e* in A *āle*; compare also A *sāle* 'salt' beside B *salyiye*, obl. *sālyi*.

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