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# Tocharian *\*l*-stems from an Indo-European Perspective

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## 1 Introduction

- To this day we have no comprehensive survey of Tocharian nominal derivation.
- Tocharian inherited from Indo-European a productive pattern of deriving gerundives in *\*-lo-* or *\*-l(i)io* (>TB-*lle*, *-le* or *-lye*, TA *-l*) from verbal roots, and synchronically, verbal stems: present gerundive (Ger I, “ expresses necessity) and subjunctive gerundive (Ger II, expresses possibility).
- In addition to this productive use, Tocharian shows a few rare instances of *\*-lo-* in other nominals independent of the verbal paradigm, e.g., TB *lakle* (n. alt.) “pain, suffering” < *\*lug-lo-*.
- But besides the nominal forms going back to thematic stems, Tocharian appears to preserve remnants of athematic stems in *\*-l-* or *\*-vl-*.
- In its finished version, this paper aims to offer a comprehensive survey of Tocharian athematic *l*-stems, based on philological investigation, and suggest an interpretation of these stems in the framework of IE nominal derivation.

### 1.1 A few caveats when working with Tocharian:

- Need to distinguish inherited material from inner-Tocharian innovations and / or borrowings from various Central Asian (= Indian / Iranian / Sinitic / Turkic) languages
- Evidence from TA may be fallacious as *\*-los#* / *\*-lom#* > *-#* and maybe *\*-l(i)ios#* / *\*-l(i)iom#* > *-#* through suffixal depalatalization (Pinault 2008:458) “ “
- The Tocharian languages have undergone fundamental innovations in terms of nominal morphology (inflectional and derivational), so that the Tocharian evidence can hardly stand alone to reconstruct athematic *\*-l*-stems in IE.

## 2 Evidence for \*-l/-stems in Indo-European

- Earliest accounts of \*-l/-stems in Indo-European: Benveniste (1935:40-49), Fraenkel (1936), need to be revised: see, e.g., Rieken 2008, who showed that many supposedly archaic stems ending in *-l* and *-ul* in Hittite actually go back to thematic forms in *\*-l̥-* and *\*-ul̥-*, e.g., *hurk-l̥-* "perversion" < *\*h<sub>2</sub>urgí-lo-* "of turning/twisting" (also Melchert 2014:209)
- Evidence for archaic \*-l/-stems or heteroclitic \*-l/-n- (or *\*-uel/-uen-*) is relatively scarce, especially compared to *\*-r-* stems.
  - One possible explanation for this discrepancy: a phonotactic rule against *\*-l̥-* in absolute Auslaut, except in the sequence *\*-P<sup>o</sup>l*, where *P* = any labial (Olsen 2010:78)
- Existence of \*-l/-stems or *\*-Vl-*stems in PIE can often be merely inferred through the comparative method, as *\*-l/-*stems tend to be suffixed further (*viz.* thematized with the addition of *\*-o-*, or derived with *\*-eh<sub>2</sub>-*, e.g., the Latin *loquēla-* type).

### 2.1 Form and function of \*-l/-stems in IE

- Because of the aforementioned scarcity of evidence, the ablaut patterns of *\*-l/-*stems are particularly difficult to reconstruct.
- The reconstructed forms are most often referred to as abstract nouns in the literature, but I hope to provide some more specification during the course of my (ongoing) research.
- Abstract or action nouns in *\*-l-* or *\*-Vl-* have been reconstructed with virtually all types of accent and ablaut pattern known in the framework of the so-called Erlangen Model, *viz.*:

proterokinetic	<i>*sépl-</i> <i>*sp-él-D(∅)</i> "± honor"	LIV2 <i>*sep-</i> "(richtig) behandeln, in Ehre halten", Lat. <i>sepeliō</i> "bury", Ved. <i>saparyáti</i> 'honors'
hysterokinetic	<i>*d<sup>h</sup>uh<sub>2</sub>-él-D(∅)</i> <i>*d<sup>h</sup>uh<sub>2</sub>-l-D(é/ó)</i> "smoke"	LIV2 <i>*d<sup>h</sup>ueh<sub>2</sub>-</i> "Rauch machen", Gk. θύελλα 'squall', θυηλή (victim of) sacrifice', θυήλημα, Ion. pl. θυσάλήματα 'sacrificial offering(s)' (Vine 2008)
amphikinetic	<i>*g<sup>h</sup>éb<sup>h</sup>h<sub>2</sub>-ol-D(∅)</i> <i>*g<sup>h</sup>b<sup>h</sup>h<sub>2</sub>-l-D(é/ó)</i> 'head'	Gk. κεφαλή "head", Gmc. <i>*gebla</i> "head, top", TA <i>šp<sup>o</sup>al</i> (NIL s.v.)
acrostatic	<i>*sp<sup>o</sup>-eh<sub>2</sub>-l-D(∅)</i> <i>*speh<sub>2</sub>-l-D(∅)</i> "± fullness"	Gk. πηλός "mud", TB <i>spel</i> , TA <i>spal</i> "mud, poultice", from <i>*speh<sub>2</sub>-</i> "be full", Malzahn 2014:260 fn. 5 (alternative explanations <i>cf. infra</i> )

## 3 Evidence for \*-l/-stems in Tocharian

- Tocharian exhibits several stems in *-l* which are clearly athematic, as shown by the variety of plural formations: e.g., TB *pikwala*, TA *pukl<sup>o</sup>a* 'years', TB *šaulanma*, TA *šoläntu* 'lives'.
- Tocharian also has *l*-stems which are (synchronically) based on characterized verb stems (Prs or Sub stem).
- Unfortunately, many of the stems ending in *-l* are *hapax legomena*: the meaning cannot always be determined with certainty due to lacking context, especially if no underlying verbal root is attested.

- A first approach: classification according to the surface form of the suffix, starting with Tocharian B, due to the ambiguous nature of the Tocharian A evidence (*cf. supra*). Within this classification, special attention is paid to root (R) vocalism (\*-e-, \*-o-, \*-Ø-) and palatalization ([+pal] or [-pal]), suffix (S) shape, and palatalization ([+pal] or [-pal]) of the (root-final) consonant preceding the suffix.

These criteria might provide information about the original ablaut pattern, e.g., in very general terms<sup>1</sup>:

- (R)[+pal] (points to PIE e-grade) combined with (S)[-pal] and (S) shape TAB /ä/ ( < \*-l or -l) might reflect an old proterokinetic stem
- (R)[-pal] (points mostly to PIE Ø-grade) combined with (S)[+pal] and (S) shape TAB /äl/ or TB or -al) ( < \*-el-) might reflect an old hysterokinetic stem
- (R)[+pal] (points to PIE e-grade) combined with (S)[-pal] and (S) shape TB /el/, TA /al/ ( < \*-ol-) might reflect an old amphikinetic stem
- acrostatic stems could technically be characterized by a (S) [-pal] and (S) shape /ä/ ( < \*-l or -l), and for the (R), either:
  - \* (R)[+pal] and (R) vocalism TB /e/, TA /a/ (points to PIE e-grade; diphthongs \*/ei/ and \*/eu/ would surface as TB /ey, ai/, TA /e/ and TB /e<sub>u</sub>, au/, TA /o/ respectively)
  - \* (R)[-pal] and (R) vocalism TB /a, a/, TA /a/ (points to PIE o-grade; diphthongs \*/oi/ and \*/ou/ would surface as TB /ai/, TA /e/ and TB /au/, TA /o/ respectively).

The criterion (R)[+/-pal] is indicated only when relevant, (S)[+/-pal] is used to distinguish (potential!) old hysterokinetic stems in \*-el (or derivatives in \*-elo-, -eli-, see below.)

- Rieken 2008:253 "Hittite [...] has become more normal" (after supposedly athematic \*-l-stems could be explained as thematic, *cf. supra*)

→ Can we make Tocharian more normal?

- some apparent l-stems with no obvious etymology may actually be loanwords, e.g., TA *w<sup>ˉ</sup>atsakäl*, TB *wats<sup>ˉ</sup>alo* "(some type of) bag, receptacle" < Skt. *vaksask<sup>ˉ</sup>ara* "id." (details to be specified at a later date)
- some athematic l-stems may not actually go back to nominals in PIE \*-l- or its allomorphs, but may be analyzed as endocentric substantivizations in \*-i- or \*-u- of thematic \*-lo- and \*-elo-stems, as in both Tocharian A and B, word-final \*-i# and \*-u# > PT \*-ä- > Ø.  
In that case, Tocharian shows traces of a well-known pattern of substantivization known in other Indo-European languages, exemplified by Av. *tīyra-* (adj.) "pointed" → *tīyri-* (m.) "arrow" (Nussbaum 1999:399, more recently Grestenberger 2014:89, for \*-u-substantivization see Höfler 2015, Massetti 2016).

### 3.1 Words ending in TB -l, except -ol

#### 3.1.1 Hapaxes with uncertain meaning

- TB *atkwal* "?", derived adj. *atkwaltse* "?"  
THT 282 a4: *an<sup>ˉ</sup>kain placsa sew<sup>ˉ</sup>iträ atkwal spä*, possible reading *se w<sup>ˉ</sup>iträ* 'he battles', thus "he battles against

<sup>1</sup> A few caveats here: (R)[+pal] is not always a valid criterion because 1) not all consonants are affected by palatalization, and 2) some root-initial consonants are always palatalized, if the root starts with a cluster \*Ci, *cf. šuw<sup>a-</sup>* 'eat' < \**gieuH-*. As for the (S)-shape criterion, derivatives of roots that show so-called A-character (generally speaking, *set-* roots) will have to be treated with special caution because \*-CH# would regularly surface as TAB -a<sup>ˉ</sup># and could potentially be confused with the outcome of PIE \*-o<sup>ˉ</sup> > TAB -a<sup>ˉ</sup>.

bad speech and *atkwal*"

PK AS 16.8 a4: *-tsa atkwaltse: śan'ki-y(o)käm krän'kaimtsa k{a/e}m r̄i ram no ///* "... provided with ... . With chickens of the color ... earth [and] city as if ..." [CEToM]

- TB *aś'al* "?: very fragmentary context THT 629 */// ntse aś'al mla ///*

### 3.1.2 /-stems not associated with a verbal root in Tocharian

(S)[-pal]

- TB *aps'al* "weapon, sword"  
THT 17 b3: *aps'altsa y'amu p'ile kektsemne curnanmasa s'älypentasa nano m'isa rätan'kem*. "[If] with a sword I make a wound on the body, with powder [and] ointment the flesh comes into being again." [CEToM]  
Etym.: Possibly a (proterokinetic?) abstract of a *set*-root which acquired a concrete meaning, but the etymology remains difficult: possibility of a loanword. A connection with YAv. *afša-* (m.) "damage" and GAv. *afšman-* (nt.) 'id.' is considered by *DoT*, s.v.. However, the Av. words seem to mean either 'loss' (Bartholomae: "Schaden, Verlust, damnum") or "deed" (Kent:1928: connection between *afšman-* and Skt. *āpas-*, Lat. *opus* (< \**h<sub>3</sub>ép-es*), but this is incompatible (semantically and phonetically) with the Tocharian form). Humbach:1991 translates as "merit". The connection with *afšman-* must, in my opinion, be abandoned. Another candidate for comparison: Skt. *aksara-* "sword" (L.) (MW:3a), but again, the phonology is difficult to reconcile<sup>2</sup>.

- TB *pisäl* (= BHS *tusi-*), TA *psäl* "chaff of grain, husk", *sne-psäl klu* 'huskless rice'

Etym.: *DoT*, s.v. reconstructs PT \* *piäsäl* from PIE \**pes-l*, from \**pes-* 'blow', c.f. OHG *fesa* "chaff", but also proposes a connection with a root \**b<sup>h</sup> us-* (popular Skt. *busa-* - (nt.), Lat. *furfur* "chaff"). Another possibility: a proterokinetic abstract \**péis-l* "that which has been crushed" from \**peis-* "crush" (*LIV2*:466, with Ved.

*pinasti*, Lat. *pins'o*, and maybe Gk. πτίσω "crush grains").

- TB \**śp'al* "head", derived adj. *śp'alu* "superior", TA *śp'al* "head"  
Etym.: From a purely phonological point of view, *śp'al* could reflect either amphikinetic \**g<sup>h</sup>éb<sup>h</sup>h<sub>2</sub>-ol* > PT \**śäp'al* or a proterokinetic \**g<sup>h</sup>éb<sup>h</sup>h<sub>2</sub>-l*. However, the Greek evidence (κεφαλή) points towards a proterokinetic stem.

- TB *spel* (m.), TA *spal* (f.) "mud, poultice", *TEB* I, §112 "Kügelchen"

Etym. : The correspondence TB / *e*/, TA /*a*/ combined with (R)[+pal] points to PT \*-*e*- in the root (c.f. *supra* where *spel* is listed as a possible acrostatic stem). *DoT*: PT \**spi-el(ä)*; with Malzahn 2014:260 I prefer the analysis as an "endocentric substantivization in \*- *i* of a *vrddhi*- adjective \* (s)*peh<sub>2</sub>lo-* "muddy"".

(S)[+pal]

- TB *warksäl*, TA *wärksäl* "power, might"

Etym.: Hackstein 1995:78ff postulates a sigmatic Prs VIII B /*w@rks-*/ A *wärks-* on the account that deverbal abstracts in /-(@)/- could be made from characterized present stems, citing *trokol* from Prs IV \**trokotär* (objection by Malzahn

<sup>2</sup> It has to be noted that the cluster *-ps-* is rare in TB and usually spans over morpheme boundaries, e.g., *yopsa* 'he entered' 3sg Prt III of *yäp-*, *ru'psa*, perl. sg. of *rup* (m.sg.) 'face'

2010:672: \*traukotär), aiwol from aiwotär and samsäl from Prs = Sub II samstär. Another possibility: a hysterokinetic derivative in \*-el- from a thematic adj. made on an \*<sup>...</sup>-s-stem to the root \*<sup>...</sup> uér“g- "be active, work", similarly to how Pinault 2015:396ff proposes to explain TB eksalye, TA opsäly (f.) "feast, wonder". Another possibility would be to derive an adjective of appurtenance in \*<sup>...</sup>-elo from an \*<sup>...</sup>-s-stem (\*ur“g-s-elo-), which in turn was substantivized in (\*ur“g-s-eli-.) (cf. infra).

### 3.1.3 l-stems associated with a verbal root in Tocharian

#### 3.1.3.1 Verbal roots which show A-character All items are (S)[-pal].

- TB wätk<sup>-</sup>al (adv. "decisively", derived adjs. TB wätk<sup>-</sup>altse "different", TA wätk<sup>-</sup>alts "firm", abstr. TA wätk<sup>-</sup>alune (alt.) "decision"

Etym.: From wätk<sup>-</sup>a- "decide" < \*ui-d<sup>h</sup>h<sub>1</sub>-ské/ó- < Melchert 1979:113. The TB adv. might be an old l-abstract used adverbially, cf. aiwol<sup>...</sup>. In any case, this seems to be an inner-Tocharian formation, given that it is based on a Prs / Sub stem. This also provides evidence that -l as an abstract suffix remained productive for some time in Common Tocharian.

- TB šw<sup>-</sup>al, TA šw<sup>-</sup>al "meat, flesh, bait" (= +- BHS <sup>-</sup>amisa-)

Etym.: From TAB šuw<sup>-</sup>a- "eat, consume" (< \*<sup>...</sup>gieuH but the details are tricky, see Malzahn 2010:923). While the TA form can be interpreted as a Ger II on the Sub V stem, the TB form cannot. The forms <sup>...</sup> šv<sup>-</sup>almem, šw<sup>-</sup>almem are to be read as šp<sup>-</sup>almem "superior", with intervocalic /p/ > /w/. TB šw<sup>-</sup>al was probably derived from a Prs / Sub stem like wätk<sup>-</sup>al.

Difficult context in THT 295 a7: yokaisse šv<sup>-</sup>al nukowä "having swallowed the bait of thirst / desire".

#### 3.1.3.2 Verbal roots which do not show A-character (S)[+pal]

- TB samsäl 'number, enumeration'

THT 45 a7, THT 169 a4 <sup>...</sup> snai samsäl along with snai yärm and snai keś

Etym.: Derived from säms- "count, count as" < \*(s)kens<sup>...</sup> - '(zweckgebunden) zählen' (Malzahn 2010:926). (S)[+pal] would point to either (1) a derivative from a present stem, e.g., Prs II <sup>...</sup> sämsam (sic) or (2) a hysterokinetic derivative in \*-el-, but that would not explain the root-initial palatalization since we would expect a Ø-grade there. Contamination from the present stem cannot be excluded, as can an endocentric substantivization meaning "+-the counted one" in either \*u or \*i on the basis of a possessive derivative in \*-elo-.

- TB eñcil "tax" (?)

Ching 2011:74 fn.35 identifies the meaning "tax" or "taxable" depending on context, with expressions A[NOM.] B[OBL.] eñcil tessa(ne) "A placed a tax on B" and C eñcil sai "C was taxable".

Etym.: Clear connection with *en'k-* "seize, grasp". Root-final palatalization may point to a suffix \**-el*. As cogently argued by Hackstein 1998:223ff, the Tocharian root form (in, e.g., the Sub I *en'ktär*) is derived from the  $\emptyset$ -grade \**h<sub>1</sub>nk* " of the root \**h<sub>1</sub>enk* " "seize". The form *eñcil* could thus mechanically be reconstructed as

. Of course, a substantivization in \**-i-* of a derivative in \**-eloa* the strong stem of a hysterokinetic \**h<sub>1</sub>nk-él* would also be possible, as would be a derivative from an intr.  $\emptyset$ -grade present stem in \**-ie/o-*.

An interesting semantic comparandum: Gk. φόρος "tribute", a τόμος-type derivative of φέρω (to which \**h<sub>1</sub>enk* " makes the suppletive aorist ἤνεγκον).

#### (R)[-pal], (S)[-pal]

- TB *tren'käl*, pl. *tren'kalwa* "cling, attachment", *snai tren'käl* = BHS *asan'ga-*  
Etym.: Derived from *tren'k-* "adhere, cling" (Prs. *tren'kastär* < PT \**trän'k-*. Extra-Tocharian connections unclear. I would tentatively propose a connection with a putative \*(s)*trengh-* "to be stiff, tighten" which should underlie Lat. *stringō* "to bind fast, tighten", \**strongh-o-* > PGmc. \**strang(j)a-* 'strong', and \**strongh-i-* > PGmc. \**strangi-* 'string' (Kroonen 483), but this leaves many problems unexplained and remains very speculative. The suffix, in any case, doesn't palatalize and is thus to be reconstructed as \**-(ä)l*.
- TB *en'käl*, pl. *en'kalwa*, TA *en'käl* "passion"  
Etym.: Derived from *en'k-* "seize, grasp"; original meaning must have been "takenness", cf. French *emprise*, and also TB *kapille* "fever" < \**kh<sub>2</sub>p(-ie)-lio-* "Ergriffensein" (Hackstein 2003:59). Because the root is fixed in the  $\emptyset$ -grade in Tocharian (cf. *supra* " ), and the [-pal]-suffix *-äl* also suggests a suffix (*-l*, or PT \**-(ä)l*), it is easiest to assume this is an inner-Tocharian formation: note the parallelism with *tren'käl* in the plural forms (although both forms don't occur together often).  
The TA form may be a loan from TB, as the corresponding root in TA is *emts-* (see *ents'al* "grip, handle", a probable substantivized gerundive). However, the *s*-extension of the verbal root in TA might be a relatively recent innovation (Malzahn 2010: s.v., with lit.), and *en'käl* might have been a Common Tocharian word.
- TB \**kaläl* "womb"  
THT 333 a4: *om no ceu kalälne ykuwes kautsiśco speltke yamasäm* "but then he makes zeal for killing this one who has come into the uterus"  
Etym.: Multiple interpretations possible. It could be an \**-l*-abstract built on the bare root or the Sub I stem of *käl-* "endure, bear" (Malzahn 2010:673). Ogihara 2013:208 proposes the hypothesis of a loan from Skt. *kalala-* (n.) "embryo, uterus". However, most TB forms borrowed from Sanskrit stems ending in *-Cala-* show the ending *-Cal* or *-C'al*: c.f., e.g., *kuśal* (adj.) "salutary" and *akuśal* (adj.) "inauspicious" from *kuśala-* and *akuśala-* respectively, and *man'k'al* "good fortune" from *man'gala-*.

#### (R)[+pal], (S)[-pal]

- TB *pikul*, pl. *pikwala* (f.), TA *p<sub>u</sub>käl*, pl. *pukl'a* (f.) "year"  
Etym.: Van Windekens 1976:395, Pinault 1998:360f reconstruct PT \**p'äkwäl*, pl. \**p'äkwäl'a* < PIE \**pék<sup>u</sup>-l*, \**pek<sup>u</sup>-l-h<sub>2</sub>*, a proterokinetic neuter abstract meaning "maturation" based on the root \**pek<sup>u</sup>-* "cook, ripen" (although in Tocharian there is no overt connection between TAB *päk-* "cook, ripen" and the words for "year").

A different etymology by Katz 1994:151ff compares the Hom. phrase ἐπιπλόμενον ἔτος "the revolving year", and so TB *pikul*, TA *pukäl* < \**pi-k<sup>u</sup>l*, from the preverb \*(*e*)*pi-* + the root \**k<sup>u</sup>el-* "turn".

- TB *camel*, pl. *cmela* (alt.), TA *cmol*, pl. *cmolu* (alt.) "birth", derivative adjs. *cmolsi* "of birth" and *cmolw<sup>asi</sup>* "of births"

Etym.: Derived from the root TAB *täm-* "be born" or its precursor. The TB form, with (R)[+pal] and suffix *-el* < \**-æ*l < \**-ol* might provide evidence for an old amphikinetic neuter singular (!) paradigm (Transponat: \**T<sup>ä</sup>m-æ*l < \**Tem-ol*). However, the etymology of the root *täm-* is far from clear.

The TA form has been explained as a derivative in \**-el-u-* to explain the *o*-vocalism via *u*-umlaut (Hilmarsson 1986:27, 165). The plural forms in *-u* < \**-w<sup>a</sup>* < \**-uh<sub>2</sub>* seem to corroborate this, although the *o*-vocalism can also be explained through labial rounding, and the *-u*-plural could be an innovative trait (whereas TB *-a* would reflect an old plural in \**-h<sub>2</sub>*).

- TB *śaul*, pl. *śaulanma* (alt.), TA *śol*, pl. *śoläntu* (alt.) 'life'  
Etym.: The finite forms of TAB *ś<sup>-</sup>aw-* 'live' go back to a \**-ue/o-*present (or athematic \**-u-*present, per LIV2:215) on the root \**g<sup>u</sup>ieh<sub>3-</sub>* (Ved. *j<sup>-</sup>ivati*), Lat. *uiu<sup>-</sup>o*, Gk. ζῶω, etc.). TB *śaul* and TA *śol* show the same root vocalism as TB *śaum<sup>o</sup>*, TA *śom* "young man". They may be based directly on this new present stem \**ś<sup>-</sup>aw-* > TB *śo-*, TA *śau-* which would best account for the vocalism as a straightforward and regular development. Alternatively, they may be derived with a suffix PT \**-äl* < \**-l* from an ostensibly archaic \**-u*adjective \**g<sup>u</sup>ih<sub>3-</sub>uó-* 'alive' (Ved. *j<sup>-</sup>ivá-*, Lat. *uiuus*). In any case, if one accepts the deadjectival derivation, some analogical leveling must have been at play, as according to Þórhallsdóttir 1998:201, one would expect that PT \**-<sup>-</sup>awæ-* > TB *-<sup>-</sup>a-* and PT \**-<sup>-</sup>awä-* > TB *-<sup>-</sup>o-*.

### 3.2 Words ending in *-ol*

The forms ending in *ol* are most often found in association with roots that have A-character. They may be suffixed further, notably in \**-mo-* and *-au-* < (\**-mn-*?) (cf. *infra*).

The easiest way to explain the suffix TB *-ol* and to connect it with an allomorph of an athematic suffix \**-l-* is to assume that it represents either (1) \**-<sup>o</sup>a-l-* (< \**-<sup>-</sup>a-l-* or \**-eh<sub>2</sub>-l-*, see Malzahn 2010:245 on \**-<sup>o</sup>a-* as an allomorph of \**-<sup>-</sup>a-* before a non-syllabic) or (2), by way of contraction (on which Þórhallsdóttir 1998:201), \**-<sup>o</sup>a-<sup>-</sup>æ*l-, where \**-æ*l- < \**-ol-*, pointing to an old amphikinetic paradigm. These forms can be derived from characterized verb stems and they have mostly concrete meanings.

- TB *aiwol* (adv., postp. + ALL.) "towards", derived adj. \**aiwoltstse* "directed to" (+ALL.)  
Etym.: Possibly an old abstract which came to be used adverbially. Connection with TA *yul<sup>a</sup>* "aimed at", which itself seems to be an old perlativ, is difficult. Hilmarsson 1991:128 deems the root *aiw<sup>a</sup>* as a denominative based on a syntagm or hypostatic compound \**æn-yäw<sup>a</sup>* "in sympathy", but a derivation from a \**-uo-*adjective from the root *ai-* 'to give' < \**h<sub>2</sub>ei* (Malzahn 2010:546) would also be possible. In this case, the verbal paradigm (and presumably the \**-l-*abstract) would be based on an \**-eh<sub>2-</sub>*abstract "givenness". In fact, the suffix \**-l-* could possibly have been used in IE as a secondary suffix to recharacterize derivatives in \**-h<sub>2</sub>*, cf. the stems \**g<sup>h</sup>eb<sup>h</sup>(-)<sub>h<sub>2</sub>-l-</sub>* and \**me<sup>g</sup>(-)<sub>h<sub>2</sub>-l-</sub>* > Gk. μέγας (nom.sg.) "great", ἀγάλλομαι "be happy".
- TB *trokol* "provisions"  
Etym.: Attested in only one text (THT 441), it is derived from *truk<sup>a</sup>* "provide", of which no finite forms are attested. The expected full grade of the root *truk-*, PT \**träwk* is \**truk-*, and the (R) vocalism *trok-* is best explained by *o*-umlaut, suggesting that the suffixal vowel implementing the peak of the next syllable was \**-<sup>o</sup>a-*, to which was added either \**-<sup>-</sup>l* < \**-l* or \**-æ*l < \**-ol*.



- TB *lyo(k)kol* "model" (?)

Etym.: Found in a TB-Old Uyghur bilingual text U 5208 from the Turfan collection of the Berlin-Brandenburg Academy of Sciences and Humanities (Pinault, Peyrot, Wilkens 2019:80). From the root *luk<sup>(o)</sup>*- "be illuminated", AG "illuminate" < \**leuk*- "hell werden" (LIV2: 418). Like in *trokol*, the expected outcome of the full grade of the root \**leuk*- > PT \**l'äwk* is \**lyuk*-, and the (R) vocalism *lyok*- is best explained by *o*-umlaut, cf. *trokol*.<sup>4</sup>

- TA *kränol* / *kärnol* "adopted child", fem. *kränol<sup>-</sup>añc*, abstr. *kärno(l)ne* (alt.) "condition of being adopted" Etym.: There is evidence that this word is a loan from TB: (1) the suffix *-ol* is not found in TA, and (2) the verbal root *käry<sup>-</sup>* and its Prs X stem *kärn<sup>-</sup>a-* are absent from TA as well. This form, which appears to be a calque of Skt. *kr<sup>-</sup>ita-* "purchased from his natural parents as a son" (MW: 321b), thus "adopted child", further provides the valuable evidence that deverbal nouns in *-ol* could in fact be derived from present stems.

### 3.3 Derivatives of *l*-stems

#### 3.3.1 Verbal roots maybe derived from *l*-stems

- TAB *akl*- "learn" (Prs IXa with *nt*-Part. *aklasseñca*)

Etym.: Winter 1990:376 proposes a nominal stem \**/ ak@l/* underlying the verbal paradigm; the idea is taken up by Hackstein 2003:60, reconstructing a proterokinetic abstract \**h<sub>2</sub>e<sup>o</sup>g-l* "announcement" based on \**h<sub>2</sub>e<sup>o</sup>g-* "speak publicly, announce". Alternative explanations by Schmidt 1992:112 and Hilmarsson 1996:8ff:

\**o-klu-* "listen to" (\**k<sup>o</sup>leu<sup>o</sup>* ) and Jasanoff 2016: \**o-klei<sup>o</sup>* -.

- TB *lal*- "work hard" (Prs IXa *lalassäm*)

Etym.: Winter (l.c.) reconstructs a nominal stem

*/ lal/* underlying the verbal paradigm (rejected by *DoT*).

#### 3.3.2 Derivatives in \*-*mo* and -*au*

It seems that *l*-stems, specifically (a priori amphikinetic) stems in PT \**-(<sup>o</sup>)æl* could be further suffixed in \*-*mo*-, or both suffixes were combined to form a complex suffix \*-*olmo* or \*-*elmo* (of course a Transponat, as no such suffix is known elsewhere in IE). This process of suffixation was especially productive in TB and seems to have been used to convert abstract nouns into resultative / concrete nouns: thus "woven object" becomes "web", "sudation" becomes "sweat".<sup>3</sup>

- TB *onolme* (m.) "creature, living being"

Etym.: A calque of Skt. *pr<sup>-</sup>anin-* (adj.) "breathing, alive", (m.) "living creature", derived from the root \**h<sub>2</sub>enh<sub>1</sub>-* "breathe": Pinault 2009:480, "\**an<sup>-</sup>a-ælmæ-* est dont la forme sous-jacente, en termes structurels.", contra Jasanoff 2003:157 fn.4: \**an-olmo-* without vocalized laryngeal. According to Pinault 2009, this word then served as a basis for TB *on<sup>o</sup>kolmo*, TA *on<sup>o</sup>kaläm* "elephant".

- TB *yśelme* (m.), TA *yśaläm*\* (m.), pl. *yśalm<sup>-</sup>añ* "sexual desire"

Etym.: This is the only derivative not directly related to a verbal root in Tocharian, but a connection can be made with *yk<sup>-</sup>assäññe* (n.) "sexual pleasure, sexual desire, concupiscence" (*DoT*:558). We are probably dealing with a root \**Hei<sup>o</sup>g<sup>h</sup>*- "strive for, desire" (LIV2:222) in the Ø-grade. Thus, the (S)[+pal] and the vocalism TB *-e*-, TA \**-ā* suggest that the suffix had the shape \**-el-* > PT \**-(<sup>o</sup>)æl*. Maybe this is an old hysterokinetic stem which was incorporated into the

<sup>3</sup> That being said, if our above analyses are correct, abstract nouns could take on concrete meanings without undergoing further suffixation, c.f. *pisäl*, *eñcil*, and also the series in *-ol*, especially *kärnol*.

category of derivatives in \*-mo- which were originally based on (amphikinetic) stems in \*-ol- > PT \*-æ/- > TB -el- [-pal]

- TB *wpelme* "cobweb"  
Etym.: From *wäp*<sup>̄</sup>- "weave" < \**h<sub>2/3</sub>uebh*<sup>̄</sup>-. The root has to be in the Ø-grade (unusual for a supposedly amphikinetic stem), and the suffix could reflect \*-*ol-mo*- because of the lack of palatalization (for a palatalized example of the root *wäp*- in the Ø-grade see maybe *ypiye* (n.) "nest" < \*"woven object" (*DoT*: 561)).
- TB *syelme* "sweat"  
Etym.: Derived from either the Sub V stem or the Prs stem in \*-*ie/o* to the root *siy*<sup>̄</sup>- "sweat" (\**sueid*- "sweat"). Not from \**suid-ol-mo*- as this would have given TB \**salme* (Malzahn 2010:388).
- Other potential derivatives in \*-mo-: TB *tsrermē* (m.) "ditch" (with progressive assimilation from \**tsrelme*), *DoT*, s.v.), TB *sleme* (m.), TA *slam* (m.) "flame", TB *wreme* (m.sg.) "object", TA *wram*, pl. *wramäm* (alt.)

It has been shown (Klingenschmitt 1994, Malzahn 2005) that certain stems in TB -*au* reflect old neuter \*-*men* stems, through the lenition of the Nom./Acc.Sg. in \*-*mn*: \*-*m*- > \*-*μ*- > \*-*u*-. With this in mind, it might be possible to connect derivatives in -*au* based on *l*-stems with those in \*-*mo*-.

- TB *yotkolau*, Obl. *yotkola(m)t* "foreman, director"  
Etym.: The basis of this derivative would be a putative \* *yotkol* "decision, commandment", from the causative, palatalized stem of the root *wätk*<sup>̄</sup>- (cf. *supra*). If *yotkolau* really reflects an old \*-*men*-stem (or a complex \*-*ol-men*), it would really mean "commandment" by itself. The passage from the abstract to the agent noun would then be paralleled by Lat. *magistratus*, -*us* (m.) which designates both the "civil office" and the "official". However, the Obl. ending -*a(m)t* points rather to a possessive derivative in \*-*ue/ont*-, as already noted by Malzahn 2005:390f.
- TB *waipalau* "giddiness, vertigo"  
THT 529 a2: [*bhr*]<sup>̄</sup>-*amika* • *waipalau* *y*<sup>̄</sup>-*amu* Etym.: Probably a derivative of *wip*- 'shake (tr.)', itself to be traced back to \**ueip*- "in schwingende / zitternde Bewegung geraten" (*LIV2*:671). Malzahn 2005:394 postulates a denominal origin, or a derivation from a verbal stem \* *waipäl*<sup>̄</sup>- which itself is not attested and should also be of denominal origin. The root vocalism points to an old *o*-grade, as exemplified by the related *waipe* (m.sg.) "banner, flag", from \**uóip-o*-. Multiple interpretations of the *l*-suffix are possible, e.g.: (1) an old acrostatic (?) abstract meaning "shaking, swaying", which was then suffixed in -*au* the same way some abstracts were suffixed in \*-*mo*- (but why the secondary suffixation?) (2) a formerly thematic derivative in \*-*vlo*- of \**uóip-ow* which must have meant "kind of shaking, swaying", which was then resuffixed in -*au* (analogically?).

→The evidence is (in my opinion) not quite conclusive enough for this connection to be made.

### 3.3.3 Derivatives in TB -(i)ye (TA -yi)

It would be tempting to unite all derivatives in TB -(i)ye under one single derivational process. It has been shown by Pinault (1999, 2015) that (pre-)Tocharian had a suffix \*-*éi*-, Nom.Sg. \*-*éi*-, Acc.Sg. \*-*i-m* belonging to a hysterokinetic paradigm. In Tocharian, these derivatives are distinguished by a Nom.Sg. in \*-*iye*, an Obl.Sg. in -(y)i. Thus, the derivatives with a suffix in -*i* that fall into this inflectional class might reflect substantivizations / abstracts derived from old \*-*lo*-stems (or maybe, athematic \*-*l*-stems).

- TB *eksalye*, TA *opsäly* (f.) "feast, wonder"

Etym.: Pinault 2015:389-399: a derivative in \*-*éi-* of a putative *\*h<sub>3</sub>ok<sup>u</sup>s-el-*, to *\*h<sub>3</sub>ek<sup>u</sup>-* "see". Support for an *s*-stem is adduced from Ved. *áks-* (nt.) "eye". A hysterokinetic action noun *\*h<sub>3</sub>ok<sup>u</sup>s-él* would have meant "seeing, viewing" or "view, sight", but one has to postulate that the *o*-grade replaces the expected zero grade of the root. If this reconstruction is correct, then we may identify other derivatives in \*-*éi-* from *l*-stems in Tocharian.

- TB *akalye* (m.), Obl.Sg. *aklyi*, TA *aklye* (m.) "study, practice; teaching"  
TB *laliye*, Obl. Sg. *lalyi* (f.) "effort, exertion"

Etym.: See above for the corresponding verbal roots, which are themselves said to be derived from *l*-stems. Judging from their inflections, *akalye* and *laliye* fit into the hysterokinetic paradigm described above.

- TB *ysalye*, TA *yäslyi* "discord, hate", adj. (subst.) *yäslu* "enemy"

Etym.: The closest (and only) comparandum: Av. *an'ra-* "hostile" < *\*h<sub>1</sub>ens-lo-* (DoT: 567). The Tocharian abstracts could be abstracts in *éi-* derived from this thematic form. The TA adj. *yäslu* "enemy" was derived using a productive suffix -*u-* which might ultimately point to a possessive *\*-ue/ont-* adjective built to an athematic stem (cf. *šp<sup>-</sup>alu* "superior" from *šp<sup>-</sup>al* "head").

- TB *\*wäntalyi*, Obl.Sg. *wäntalyi* "bow"

Etym.: Probable connection with *wänt<sup>-a</sup>* "wrap, cover, envelop" (DoT: 644) < *\*uend<sup>h</sup>-* "wrap around" (LIV2:681), cf. TA *añcäl* "bow", also an *l*-stem. The (S)[-pal] points towards a derivation not with *\*-el-* but a simple *l*-suffix, maybe even based on a Prs or Sub stem.

### 3.3.4 Derived adjectives in TB *\*(ts)tse*, TA *\*-ts*

- TB *mant<sup>-</sup>alaitse* "evil-minded, malicious" (*\*mant<sup>-</sup>alo*, Obl.Sg. *mant<sup>-</sup>alai* "malice"), TA *m<sup>-</sup>antälw<sup>-</sup>ats* "injuring, offending"

TA *y<sup>-</sup>atälw<sup>-</sup>ats* "powerful"

Etym.: In both preceding items the respective roots are quite clear: TB *mänt<sup>(-a)</sup>*, TA *mänt<sup>-a</sup>* "destroy" (< *\*menth<sub>2</sub>-* "stir", LIV2:438) and TA *y<sup>-</sup>at<sup>(-a)</sup>* "be capable" (< *\*iet-* "establish oneself", LIV2:313). Both TA forms could have undergone "vowel balancing" and might be reconstructed as *\*m<sup>-</sup>ant<sup>-</sup>älw<sup>-</sup>ats* and *\*y<sup>-</sup>at<sup>-</sup>älw<sup>-</sup>ats* respectively. The (R) vocalism might go back to (pre-)PT *\*o*: PT *\*mænt<sup>-a</sup>* and *\*yæt<sup>-a</sup>* could have yielded *m<sup>-</sup>ant<sup>-a</sup>* and *y<sup>-</sup>at<sup>-a</sup>* by *a*-umlaut. The (S)[-pal] is certainly due to the fact that these were abstracts based already on a verbal stem ending in *\*-a*, like *wätk<sup>-al</sup>*. In that case, they look like Common Tocharian (but still inner-Tocharian) formations: an example of the simple suffix *\*(-ä)l-* having gained productivity in Tocharian, as in *tren<sup>-</sup>käl* and *en<sup>-</sup>käl*.

Why I think *\*m<sup>-</sup>ant<sup>-al</sup>* and *\*y<sup>-</sup>at<sup>-al</sup>* are abstracts and not substantivized gerundives: (1) the TB evidence: the derivation in *-o* / Obl.Sg. *-ai* is not seen with other gerundives; and (2) the TA derivation with the productive possessive suffix *-w<sup>-</sup>ats* which is usually attached to full-fledged abstracts, e.g., *tampew<sup>-</sup>ats* (adj.) "powerful", based on *tampe* (alt.) "power", *amanw<sup>-</sup>ats* (adj.) "proud, arrogant", based on *am<sup>-</sup>am* (m.) "pride".

## 3.4 Ambiguous cases from Tocharian A

### 3.4.1 Not directly associated with a verbal root in Tocharian

- TA *añcäl* (f.) "bow"

A 91a3: *ws<sup>-</sup>a-yok<sup>-</sup>as poken-yo añcäl pañwä(s)* "with his gold-coloured arms he is drawing the bow"

Etym.: Could be from *\*h<sub>2</sub>enk-* "bend" (LIV2 :268) with (S)[+pal] which points to a hysterokinetic paradigm *\*h<sub>2</sub>nk-él-* (but the expected outcome of *\*h<sub>2</sub>N-* seems to be TA *ˉan-*, Hackstein 1998:221). Alternatively, a substantivized thematic stem: *\*h<sub>2</sub>enk-(e)lo-* "bent" → *\*h<sub>2</sub>onk-(e)li-* "the bent one", viz. "bow".

- TA *nispal*, pl. *nispal(n)tu* (alt.) "wealth, possessions"

Etym.: Difficult. Pinault 2020:329-330 proposes a compound replacing a merism of the type [Men + Cattle] (*\*uih<sub>1</sub>ró- \*pekú-*), where *\*uih<sub>1</sub>ró-* → *\*nis* < *\*nizdī-* "nestmate" and *\*pekú-* → *\*spal* < *\*spæl* < *\*spol*, itself from an amphikinetic *\*sép-ol-*, weak stem *\*sp-l-*, cf. the proterokinetic *\*sép-l* mentioned above.

- TA *masal\** in *masalyam*, pl. *masalyamäs* (adj.) "causing", *masalyamtsune* (alt.) "contribution, effect, influence"  
TA *ywˉatal\** in *ywˉatalyam* (adj.) "standing in opposition"

A 385 b2-b3 : *pramˉadapratidvamdividharma : ykorñeyis ywˉatal yam märkampal*

Etym.: It is not clear whether *masalyam* and *ywˉatalyam* are compounds or syntagms. In any case, we can isolate the agent noun *yam* "doer", which may be interpreted as a derivative in *\*-mˉon* from the present stem *ya(p)-* which is suppletive to *yˉam-* "make, do" in TA, cf. TB *aišamo* "clever, intelligent" from the Prs II stem *aištär* of *aik-* "know, recognize"

This leaves us with the abstracts *masal* "+- cause" and *ywˉatal* "+- opposition", which look like either substantivized gerundives (from unattested or very poorly attested roots) or *\*l-*abstracts (judging from the (S)[-pal], maybe proterokinetic). The form *\*masal* may be connected to the hitherto unexplained verbal root TA *mäs-* (Prs VIII (m) *msästär*), which is unfortunately always attested in a very fragmented context. As for the element *\*ywˉatal*, it is possible to make a connection with TAB *ywˉar* "half, middle", which in turn contains the local particle *\*yän-* and the distributive numeral for "two" < *\*duoh<sub>1</sub>* (cf. Hilmarsson 1991:190f). This is corroborated by the Sanskrit equivalent *pratidvamdivin-* "vying with".

- TA *šemäl* "small livestock"

A96 b3 *šemälyo talke yatsi wätkseñc* "they decide to make a sacrifice with livestock"

A72 b2-b3 *ylem krop tˉalont warpam tatmu(nt) šemäll o(ki)* "the flock of gazelles, like small livestock raised in a miserable enclosure..."

Etym.: Difficult. From the texts, it is only obvious that this animal was (1) kept in an enclosure and (2) fit for sacrifice. Connections with Gk. nt.pl. *κεμήλια* "riches" and, on the other hand, *χίμαρος, χίμαιρα* "young goat", lit. "cattle pertaining to winter, one winter old" have been proposed (see, e.g., Van Windekens 1976:

477f). In my opinion, the connection with *χίμαρος, χίμαιρα* (so, a putative *\*g<sup>h</sup>-eim-el-o-* or *\*g<sup>h</sup>-eim-el-i-*) seems more convincing, but I plan to further investigate this matter in the future.

### 3.4.2 Probable substantivized gerundives

Many "abstracts" and other nominals ending in *-l* could actually be analyzed as substantivized gerundives. They sometimes exist besides abstracts in *-lune*. Their exact relationship still has to be further investigated. Here is a (obviously non-exhaustive) list of words in TA which could be substantivized gerundives:

- *el* Nom./Obl.Pl. *elant* (alt.) "gift, present, alms", Ger II based on Sub I stem of *e-* "give"
- *entsˉal* "handle, grip", Ger II based on Sub V stem *emtsatär / emtsˉatär* of *emts<sup>(a)</sup>-* "seize, take, understand"
- *wsˉal*, Nom.Pl. *wsˉalu* (alt.) "garment", Ger II based on Sub stem of *wäs-* "don, wear"?

- *karel* "laughter", Ger I based on Prs stem *kares* of *kary-* "laugh"
- *wakal* (adj. / adv.) "half", probably from *w<sup>-</sup>ak<sup>(-a)</sup>*- "split apart, burst"
- \**śral* "separation" in the adj. *śralsi* "of separation", from *tsär<sup>(-a)</sup>*- "be separated"
- *sepal* "ointment", Ger II based on the Sub V stem of *sip<sup>(-a)</sup>* "anoint"
- etc.

## 4 Conclusions and final thoughts

In this paper I have argued that:

- The suffix *\*-l-* and its allomorphs gained some productivity in (pre-)Tocharian to derive deverbal abstracts from either roots or characterized verb stems, maybe under the influence of the very successful gerundives in *\*-lo-* or *\*-liio-*
  - In Common Tocharian, the "proterokinetic" model (suffix *\*-(ä)l*) remained productive for some time to derive abstracts such as *en'käl*, *tren'käl* and other abstracts such as *aiwol*, *wätk'al*.
  - The hysterokinetic inflection is only present in certain archaisms, such as *eñcil* (if it is not derived from a thematic stem or based on a present stem), maybe TB *yśelme* and the derivatives TB *eksalye*, TA *opsäly*.
  - Traces of amphikinetic inflection remain only in TB *camel*, TA *cmol*, as well as in the suffix PT *\*-æ/* < PIE *\*-ol*, extracted from the neuter singular stem (without *\*h<sub>2</sub>* and lengthening to *\*-ol*), which was then suffixed further in *\*-mo-* to form result nouns from abstract nouns.
  - No secure examples of acrostatic *\*l-*stems are attested.
- Although it is sometimes impossible to determine whether a specific nominal form ending in TB (or TA) *-l* reflects an athematic *\*l-*stem or is derived in *\*-i* or *\*-u*, some apparent "archaic" *\*l-*stems are better analyzed as substantivizations of *\*-(V)lo-*stems, a process which is paralleled in other IE languages, thus making Tocharian "more normal" overall.

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