On the Development of Labiovelars in Tocharian*

Hannes A. Fellner
University of Vienna

One of the many problems in Tocharian historical phonology is the development of labiovelars. Though progress has been made in recent times (Hilmarsson 1993; Kim 1999; Pinault 2004) the exact history of PIE labiovelars and the sequences of palatal/velar plus *u/*u in Tocharian has still to be written. The interesting fact that in the Tocharian script two reflexes of a Proto-Tocharian (PT) *kʷa in TB, namely <kw> and <ku> (<Kw>), compare to only one in TA, i.e., <ku> (<Ku>), has further complicated the picture. In this study it is argued that the two reflexes of PT *kʷa in TB can be explained as the interference of different phonostyles.

Due to fact that Tocharian is comparatively unexplored within the canon of IE languages, Tocharology with an IE linguistics flavor unfortunately seems to be underdeveloped in comparison with, e.g. Greek or Vedic linguistics.¹

* For comments and suggestions I would like to thank Melanie Malzahn, Martin Peters, and Dieter Gunkel. I am, of course, solely responsible for all errors.

¹ One objective reason for this relative backwardness of IE Tocharology is that the Tocharian branch of IE is, when it comes to the stage of language development from PIE to the daughter languages, comparable with middle-IE languages such as Middle Indic, Middle Iranian and others rather than with old-IE languages such as Vedic Sanskrit or Homeric Greek. Although, or perhaps precisely because, the sound laws of Tocharian are not lying on the surface, Tocharian is beyond doubt as important for the reconstruction of PIE as any other IE language that is a direct descendant of PIE devoid of an intermediate stage (Klingenschmitt 1994:310).
Though advances were made, especially in the early years\(^2\) as well as in recent years of Tocharian studies, for the majority of Tocharian we still lack important tools such as akṣara charts, exhaustive text editions, complete translations, useful dictionaries, concordances, and even comprehensive up-to-date grammars. A simple comparison with the Anatolian branch of IE, which was discovered in the same period as Tocharian shows the serious underdevelopment from which Tocharian linguistics and philology suffer.

One of the main problems of Tocharian studies that we have to deal with is the fact that the few Tocharian handbooks available cover only a small and sometimes idealized portion of the data of the actual corpus of the Tocharian languages, and often the data is untraceable.

In the history of Tocharian historical grammar, this situation has lead to the profound insufficiency that studies of the Tocharian languages were, and unfortunately sometimes still are based on a few handbooks—for example the *Tocharische Elementarbuch, (TEB)* (Krause and Thomas 1960) and not on the texts themselves.\(^3\)

As long as there are just a very limited number of appropriate handbooks, it is inevitable to go *ad fontes* to make statements concerning the more sophisticated parts of Tocharian historical grammar—that is to go to the actual manuscripts and texts and deviate from the handbook’s standard examples, because—to paraphrase a dictum of Immanuel Kant—linguistics without philology is empty just as philology without linguistics is blind.

This is also true when it comes to working with manuscripts in fact one faces the lack of of a monograph;\(^4\) there is only one paper (Schmidt 1997) and some scattered marginal notes\(^5\) on the Tocharian Brāhmī

---

\(^2\) The great works and efforts of the congenial duo Emil Sieg and Wilhelm Siegling cannot be estimated high enough.

\(^3\) As the title suggests, the *TEB* is elementary, rather more a text book for students than a scientifically well elaborated grammar for the needs of a specialist. No one would ever think of the idea of basing a survey of Vedic on MacDonell’s *A Vedic Grammar for Students* (MacDonell 1916).

\(^4\) There is one monograph concerned with the paleography of the Sankrit manuscripts from Eastern Turkestan and that is the groundbreaking work by Sander (1968). A thorough study of Tocharian paleography is an urgent desideratum for Tocharian linguistics and philology. For a first step in this direction cf. Malzahn (in press a).

\(^5\) All statements about the Tocharian Brāhmī script that have been made so far cursorily remain on the surface of the special peculiarities of the Tocharian Brāhmī script, but satisfying explanations of these peculiarities haven’t been given yet.
script, even though the latter exhibits some features which other closely-related writing systems in the proximate neighborhood of Tocharian lack.

Among these features, the so-called "Fremdzeichen" ("foreign sign"), is the most famous.⁶

Another characteristic feature of the Tocharian Brāhmī script —immediately eye-catching in reading a transliterated Tocharian text—is the occurrence of subscripted vowels u, ā, i, o with a curved line connecting them to the precedent and/or subsequent consonant or—with diphthongs—preceding vowel. These transliterations reflect ligatures of akṣaras, cf., e.g., \(\hat{\text{pādhyā}}\), \(\hat{\text{wñāślne}}\), \(\hat{\text{tākō}}\), \(\hat{\text{kāśkō}}\), \(\hat{\text{kōse}}\) etc. and see Figure 1 that gives examples in Tocharian script.

![Figure 1: Examples of ligatures of akṣaras.](image)

These ligatures were interpreted as containing non-syllabic vowels in open syllables and in non-syllabic components of diphthongs, and they are found mostly in metrical contexts (cf. Sieg and Siegling 1908:921; TEB:40). Interestingly enough, this phenomenon occurs in most of the instances with the vowel u.⁷ Here is the point where labiovelars figure prominently.

---

⁶ The Tocharians invented a couple of akṣaras that were alien to the Indian Brāhmī. Most of them have an inherent ā instead of a as in the Indian Brāhmī. For the phonological status of the ā cf. Jasanoff (1978:33).

⁷ An interesting fact is that ligatures of \(\hat{p}k\) and ligatures of \(\hat{p}\hat{k}\) are almost undistinguishable in the Tocharian Brāhmī script. So, in principle there is the possibility that the writers who copied the Tocharian texts made mistakes in leaving out or adding subscripted \(\hat{\delta}\) by mere drawing the line that connects the \(\hat{p}\) with the \(\hat{k}\) a touch longer or shorter. Unfortunately, in cases where only \(\hat{p}\hat{k}\) is attested and never \(p\hat{k}\) we can’t tell which one was underlying, see Figure 2. This fact is to be taken into consideration when it comes to the paradigm of the word for ‘year’ TA \(p\hat{\text{ākāl}}\), TB \(\text{pikul}\) (for possible etymological explanations of this word cf. Pinault 1989:52; Katz 1994:156-158).
The developments of labiovelars and sequences of velar/palatal plus *u/*y has been a major problem of Tocharian phonology since the very beginning of Tocharian studies. There are several reflexes in the writing and phonemic system of Tocharian that potentially reflect old labiovelars and sequences of velar/palatal plus *u/*y: Tocharian B (TB) <kw>, <ku>, <k'ũ_i> and Tocharian A (TA) <ku>, <k'ũ>. Many scholars have made contributions to this problem. For recent treatments, partially with reviews of previous literature, (cf. especially Hilmarsson 1993; Kim 1999; Pinault 2005).

The main points where there is still no agreement among scholars are the development of sequences of velar/palatal plus *u/*y, of labiovelars in front of stops, and the interpretation of divergent reflexes of underlying labiovelars in TA and TB like TA kum- versus TB kām 'to come'. Further the history of the so-called rounding of PT *a > o in the vicinity of PIE labiovelars or sequences of velar/palatal plus *u/*y

---

8 Also a plain <k> occurs in cases where the labial element of a PIE labiovelar was lost due to an adjacent *u (probably already in PIE, cf. Weiss 1994:137-139); in Pre-Proto-Tocharian this takes place before *o (e.g. TB kele 'navel' < *k'ũ₁₀₁-o- 'turning, hub' cf. Gk. πόλος 'axis, pivot') and also by analogy and paradigmatic levelling.

9 Schulze (1924 [= 1934]) was the first to recognize the assimilation of an õ to u in the vicinity of k's that were the outcome of PIE labiovelars (see below). See also Pedersen (1941:234-244); Couvreur (1947:14): TEB: 49-50. Lane (1960) was the first to devote a whole paper to this problem and by providing a thorough collection of relevant material, he prepared the ground for this important topic of Tocharian historical phonology. See also Normier (1980:256); Schmidt in Schmidt and Strunk (1989:263-265). Van Windekens (1969, 1970a and b, 1976:89-94) and Adams (1988:37-38) did not add anything substantial to the problem, whereas Pinault (1989:50-53, 2005:201-202); Hilmarsson (1993); Ringe (1990:403-404, 1991a:76-77, 1991b:81-83, 1996:138-144, 1998:611, 2004) contributed valuable thoughts and thoughtful suggestions to the discussion of labiovelars and sequences of velar/palatal plus *u/*y in Tocharian. The, by now, most detailed treatment of this issue is the one of Kim (1999). Unfortunately, there are still questions left concerning the development of PIE labiovelars and sequences of velar/palatal plus *u/*y.
remain doubtful, and finally, there is no agreement on why there are two kinds of potential reflexes of labiovelars in TB but only one in TA.

It is, in my opinion, correct to follow Kim’s (Kim 1999) suggestion that reflexes of the PT labiovelar *Kʷa̞ show up either as <ku> (<k_u>) in TA,¹¹ and as <kw>, <ku> (<k_u>) in TB.¹²

The graphical difference between <kw>, <ku> and <k_u> is displayed in Figure 3.

![Graphical difference between <kw>, <ku> and <k_u>.

An important unsolved question is why we encounter two different reflexes in TB, but only one in TA.

TB exhibits the following doublets:


3sg. kwasnätär ‘laments’ : 3pl. med. kusnontär ‘lament’ (for the etymology Hilmarsson 1996:195)


¹⁰ For the present survey, the deeper history, the different origins and prior chronological implications of PT *Kʷa don’t matter.

¹¹ There is only sparse evidence for a <kw> in TA that ultimately could be the outcome of a PT *Kʷa and the few words containing <kw> in TA were recently thought to be borrowings from TB (Itkin 2002:12).

¹² The ligature <k_u> is found as an alternant of <ku> in metrical passages (see above), but interestingly, there are words that are (almost) always written with this ligature regardless of the context, e.g., the pronoun Kuse.
pl. kwarsarwa 'mile, vehicle' : kursarwa

gerund kwälypelle 'desiring' : kulypelle
(for the etymology cf. Hilmarsson 1996:191)

kwäncit 'sesame' : kuñcit
(for the etymology cf. Isebaert 1980:74)

kwäntsänñe 'firm' : kuntsänñe
(for the etymology cf. Hilmarsson 1996:202f.)

sg.loc. kwarmne 'tumor' : sg.gen. kurmantse
(for the etymology cf. Adams 1999:234)

3pl. kwremntär 'age' : preterite participle kuro
(for the etymology cf. Hilmarsson 1996:203f.)

kwri 'if, whenever' : krqi

obl. lanwce13 'light' [not heavy] : lanKotse
(for the etymology cf. Van Windekens 1976:255-256)

pl.acc. lkwarwa 'time, occasion' : sg.nom. lyakur
(a questionable etymology is offered by Van Windekens 1976:264f.)

mäskw(o) 'obstacle, hindrance' : loc. mäsköne
(a questionable etymology is offered by Van Windekens 1976:285)

---

13 In TB certain words containing nkw are sometimes attested without the k being written, cf., e.g., enkwelenwe, tankw-Itanw-, ŕiinkw-štänw-.
pl. \textit{pikwala} ‘year’ : sg. \textit{pikul}, \textit{pikula}  
(for the etymology cf. Pinault 1989:2; different Katz 1994:156-158)

3pl. \textit{pkwëntär} ‘rely on, trust’ : 3sg. \textit{pak1träl/paktär}  
(for the etymology cf. Van Windekens 1976:395, differently \textit{LIV}: 469)

As is pointed out in \textit{TEB}:49, the sequence \textit{kw} is sometimes subject to “Schwächung”—("weakening")—to \textit{ku} (\textit{k₁}) in an open syllable in TB. It is not far fetched to suppose that Krause and Thomas implicitly meant that this “weakening” has had its origin in the accent conditions of TB (cf. \textit{TEB}:47-50), where an unaccented \textit{ä} in an open syllable is syncopated.

A feasible scenario to account for this process, can be described by the rule:

\begin{align*}
\text{TB} \quad (-)k\text{wa-} & \quad \text{syncopated} \quad \quad (-)kw- \rightarrow \quad (-)ku-/\underline{C} \\
\end{align*}

But if this rule is correct, we would on the one hand expect that the \textit{ku} (\textit{k₁})-forms that are matched with \textit{kw}-forms only occur in open unaccented syllables. On the other hand, we would expect to encounter forms that display an unaccented \textit{u} in open unaccented syllables, that goes back to \textit{(-)wā-/(-)wa-}.

As for the first assumption, that \textit{ku} (\textit{k₁}) is restricted to unaccented open syllables, compare the following forms from the list above:

\begin{quote}
kusnontär, kursarwa, kulypelle, kuñcit, kuntsaññe, kurnantse, kursamñntär, lyakur, pikul, pak₁träl
\end{quote}

As for the second assumption, that we ought to encounter \textit{u} in open unaccented syllables of words otherwise showing \textit{(-)wā-/(-)wa-}, it is hard to find any examples. What we find instead is a process TB \textit{(-)wāC-} $\rightarrow$ \textit{(-)wC-}, cf. e.g. TB 3pl. \textit{wāsare/wsare}\textsuperscript{14} ‘gave’.

An alternation of \textit{wā/wa/u} is according to Winter (1992:109) to be found in the word for ‘seven’:

\textsuperscript{14} Schmidt (1986:648) believes that these forms are the reflexes of the informal styles of Tocharian B, because they are attested in monastery records.
On the Development of Labiovelars in Tocharian

PIE *septn > PT *s’äpätä > TA špät
> PTB *šäwät > *šwät > *šut influenced by TB okt > TB šukt

Winter reconstructs PT *s’äpätä, which is the direct preform of TA špät. This PT *s’äpätä turns, according to Winter, into Pre-TB *šäwät and than into *šwät.\(^{15}\) This *šwät would have had the alternant *šut, which turned to TB šukt under the influence of TB okt ‘eight’.\(^{16}\)

If Winter’s reconstruction is correct, we have here another characteristic feature of the informal styles of Tocharian B in the alternation of *wät/*u.

We will now come back to the relation of TA and TB concerning the distribution of kw, ku and k. It is apparent that in plenty of cases a TB kw corresponds to TA ku, ku or uk, ūk.

| B kwälypelle | : | A kulypal |
| B kwre̞mtäṛ | : | A kuro |
| B kwäńte | : | A kuńlune |
| B kwäńcit | : | A kuńcit |
| B ekwalatte | : | A kulatär |
| B kwamo | : | A kuma (name of a meter) |
| B kwarsär | : | A kursär |
| B pl. mekwa | : | A pl. maku ‘nails’ |

(for the etymology cf. Ringe 1991b:144-146)

| B gerund pkwalle | : | A gerund p̆kal ‘relying on, trusting’ |
| B sekwe | : | A saku ‘pus’ |

(the exact Greek comparandum is ὅμιον)

| B päs sakw | : | A psuk ‘garland’ |

(for the etymology cf. Isebaert 1980:200-201)

| B sakw | : | A suk ‘goog fortune, luck, happiness’ |

\(^{15}\) As Peters (1991) has argued, numerals are very much prone to the influence of informal, i.e. phonologically more progressive, phonostyles. The sound change p > w is attested in the informal styles of TB (cf. Schmidt 1986:640; Stumpf 1990:73; and Peters 2004).

\(^{16}\) To be sure, it cannot be ruled out that *āwā was contracted to *u like, e.g. TB sub. I 3sg. med. kutār < PT *kāwätār. Another possible solution to account for TB šukt is offered by Kim (1999:174, n.79), where a replacement of *p by *k in certain preconsonantal contexts is proposed (cf. also Ringe 2004; differently Pinault 1999).
B yakwe : A yuk ‘horse’
(for the etymology cf. Sieg and Siegling 1908:927)
B acc.pl. sänkwamna : A dat.sg. šuṅkac ‘throat, fauces’
(uncertain; for references cf. Kim 1999:173)
B taŋkw : A tuŋk ‘love’
(uncertain; for references cf. Kim 1999:173)

The labialization of ā in the vicinity of old labiovelars in Tocharian A was first proposed by Wilhelm Schulze in a tiny “Vornotiz” (Schulze 1924), thus the correspondents between TB kw and TA ku, Kₐ or uk, uʾk can be explained by the pre-Tocharian A soundlaw:

PT *kʷā > TA ku (Kₐ)
PT *ākʷ > TA uk (uʾk)

When we look again at the discrepancy of doublets in TB with kw on the one side and ku (Kₐ) on the other, it attracts attention that the TB ku (Kₐ) forms do correspond to TA ku (Kₐ) forms.

B ekwalatte : kuletär, Kₐletär :: A kulatär
B kwašai : Kₐšaiñ :: A šukš (?)
B kwälypelle : kulypelle :: A kulypal
B kwremtär : kuro :: A kuro
B kwäńcit : kuńcit :: A kuńcit
B kwarsarwa : kursarwa :: A kursärw
B kwälñe :: A kuńlune
(for the etymology cf. Winter 1980:545)
B kwrakar :: A Kₐrekar
(for the etymology cf. Adams 1999:239)
B kwamo :: A kuma
R mekwa :: A maku
B sekwe :: A saku

In principle, the alternation of kw and ku (Kₐ) in TB can, in my opinion, be explained as resulting from interference between different phonostyles. The ku (Kₐ)-form can, in this scenario, be explained as phonologically more progressive, i.e., reflecting a more progressive, i.e.,
more informal TB phonostyle and thus showing the same rounding effect TA exhibits.

In this informal phonostyle of TB even more progressive weakening process seems to be going on as the following forms suggest:

B askwace : askace 'darbha-grass'
(Desmostachya bipinnata)
B lakatse : laktse 'shining, bright, brilliant'
(for the etymology cf. Ringe 1990:403)
B lanwce : lanKatse : f. lanksta
B pikwala : pikala
B pältakwe : pältakne 'drop, dew'
B pāssākwe : pāssak
B pkwāntrā : pakatār
B pl.abl. serkwameŋ : sg.loc. serkne 'cord, string'

If the assumption that we have interferences of different phonostyles in TB is correct, we would reckon with attestations of hypercorrections. And indeed there are few forms that never ought to have sequences of kw, ku (Ḳu) that show hypercorrect Ḳu-forms.\footnote{There might be many more cases of hypercorrection. In order to determine whether forms are hypercorrect or not, it is obviously necessary to know their etymology.}

\begin{itemize}
  \item Ḳušanti beside kšanti < Skt. kšanti
  \item Ḳušattarya beside kšattarya < Skt. kšatriya
  \item saḳuse beside sakse (from Chinese cf. Lubotsky and Starostin 2003:262)
\end{itemize}

**Conclusion**

Philologically interesting now is the fact that kw-forms tend to show up more often in the archaic Ming-Öi Qizil (MQ) texts. The discrepancy between the two different outcomes of Proto-Tocharian labiovelars in TB, i.e., kw and ku (Ḳu) vs. a single one in TA ku (Ḳu) can be explained as resulting from interference between different phonostyles in TB. The fact that the MQ texts do display kw-forms more often than ku (Ḳu)-forms
Hannes A. Fellner

shows that in the immediate prehistory of TB, at least in informal styles, a sound change PT *kʷä > TB kwä > TB' ku took place. The last change was still in progress during the time period of the attestation of our TB texts.

\[
\begin{align*}
\text{PT } *k^w\ddot{a} & > \\
\text{TA } ku (K\ddot{u}) \\
\text{TB } kwä \\
\text{informal styles } TB \ ku (K\ddot{u}), \text{ sometimes even } k
\end{align*}
\]

There are several conceivable reasons why some words are exclusively attested with kw or ku (K\ddot{u}):

1. Mere chance, because, unfortunately, the whole corpus of Tocharian languages has not been published yet.\(^{18}\)

2. In different monasteries there might have been different conventions and shibboleths concerning the treatment of archaic idioms. Some monasteries might have been more conservative than others, some writers seem to have transferred archaic forms in everyday language (Stumpf 1990:52-55; Malzahn in press b).

3. Some words and parts of speech (cf. Peters 2004:437) are more susceptible of transfer from lower to higher phonostyles. Such a case might be seen in TB K\ddot{u}se, which in nearly any environment is written like this.\(^{19}\)

References

Adams, Douglas Q.
1999 *A Dictionary of Tocharian B.* Amsterdam/Atlanta: Rodopi.

Couvreur, Walter

Hilmarsson, Jörundur

---

\(^{18}\) It has to be kept in mind that large portions of the St. Petersburg and the Paris collection, and even minor parts of the Berlin collection, are still not published.

\(^{19}\) In some texts we see the development: K\ddot{u}se > se and K\ddot{u}ce > ce (Stumpf 1990:68), which supports the explanation made above.


Isebaert, Lambert
1980 *De Indo-Iraanse Bestanddelen in de Tocharische Woordenschat. Vraagstukken van Fonische Produktinterferentie, met bizzondere Aandacht voor de Indo-Iraanse diafonen a, a*. Leuven:

Itkin, Ilja B.

Jasanoff, Jay H.
1978 *Stative and Middle in Indo-European*. Innsbruck: Innsbrucker Beiträge zur Sprachwissenschaft.

Katz, Joshua T.

Kim, Ronald

Klingenschnmitt, Gert

Lane, George S.

Lubotsky, Alexander, and Sergei A. Starostin

*LIV*

MacDonell, Arthur A.

Malzahn, Melanie
in press a A Tocharian Brāhma Chart. In: *Die Sprache, Chronicalia Indoeuropaeae.*
in press b The Most Archaic Manuscripts of Tocharian B and the varieties of Tocharian B language. In: *Die Sprache, Chronicalia Indoeuropaeae.*

Normier, Rudolf
Pedersen, Holger  

Peters, Martin  

Pinault, George-Jean  

Ringe, Donald A. Jr.  

Sander, Lore  

Schmidt, Klaus T.  
On the Development of Labiovelars in Tocharian


Schmidt, Klaus T., and Klaus Strunk

Schulze, Wilhelm

Sieg, Emil, and Wilhelm Siegling

Stumpf, Peter

TEB

TG

Weiss, Michael

Windekens, Albert Joris Van
Winter, Werner


Hannes A. Fellner
hannes.fellner@gmx.at