Tocharian and Samoyed: on the question of Uralic substrate influence in Tocharian

Warries, A.R.

5 The Tocharian accent

In this chapter, I will consider the prehistory of the Tocharian accent in various relevant categories in order to compare it with Uralic/Samoyed. I will start from epenthesis and syncope as developments that can inform our view on regular, category-independent phonological developments in early Tocharian, and measure existing theories on the accent against that background.

5.1 Accentuation in Tocharian

One aspect of the phonology that has been entirely left aside until now is the stress placement or accentuation. Proto-Uralic and Proto-Samoyed had regular word-initial stress (e.g., Janhunen 1982: 27; Sammallahti 1988: 480), while Proto-Indo-European had a mobile accent (e.g., Beekes 2011: 153–158). The Tocharian accent can only be determined in Tocharian B, and there it falls most generally on the second syllable, unless the second syllable is also the (Proto-Tocharian) final syllable (see below for more details). While Tocharian A provides no direct evidence for stress placement in its spelling, the situation of Tocharian B is normally reconstructed for Proto-Tocharian as well (e.g., Pinault 2008: 416). This means that the Proto-Tocharian stress placement would be different from Uralic or Samoyed stress placement, and that Tocharian would thus not show any sign of Uralic influence in this respect (Kallio 2001: 230–231).

However, the eventual Tocharian stress on the second syllable constitutes an innovation vis-à-vis the Proto-Indo-European mobile accent. For a comparison with Uralic/Samoyed, we need to look at a stage of pre-Proto-Tocharian that predates Tocharian B accentuation, and from which it can be explained. The precise history of the placement of the accent in Tocharian is not agreed upon by scholars, and various models for its diachronic development exist. These models are not always systematically applied to all categories, so that it is difficult to get a complete overview. For example, Ringe (1987) is only concerned with the accentuation of nouns. Consequently, there are various views on the development of the accent in pre-Proto-Tocharian, several of which do assume an earlier stage of initial stress with later movement to the second syllable under various conditions (see below). Such scenarios amount to a closer match between pre-Proto-Tocharian and early Uralic or Samoyed in this regard. The remainder of the present section will introduce some general characteristics of the Tocharian B accent, how it is reflected in the spelling and its general behaviour, before we attempt to reconstruct a coherent account of the Tocharian accent in the following sections.

5.1.1 Basics of the Tocharian B accent

Since Tocharian has not survived until the modern day and is only known from ancient textual evidence, certain aspects of the language cannot be exactly recovered. The placement of stress is among those features that are difficult to access through written sources alone. However, at least classical Tocharian B provides some direct information on this aspect of the language in the way its vowels are spelled. Crucial in this regard are the phonemes TB /ə/ and /a/, as both have two allophones that are differentiated in the orthography. The written vowel ⟨ä⟩ is used to represent unaccented /ə/, while ⟨a⟩ can represent accented /ə́/. At the same time, ⟨a⟩ may also stand for an unaccented /a/, whereas the accented counterpart is written as ⟨ā⟩. Thus, accented /ə́/ and unaccented /a/ are written with the same sign ⟨a⟩. See Peyrot (2008: 33–41), also on the chronology of these orthographical practices within the manuscripts. Table 5.1 presents an overview of this situation.

Table 5.1: An overview of the spelling of stressed and unstressed /ə/ and /a/ in classical and late Tocharian B.

phoneme	/ə/	/ə́/	/a/	/á/
spelling	⟨ä⟩	⟨a⟩	⟨a⟩	⟨ā⟩

In archaic texts there is a more variable spelling, with ⟨ā⟩ and ⟨a⟩ representing both /á/ and /a/ interchangeably, while ⟨a⟩ also still sometimes stands for /ə́/ as well. This means that the accent in such texts cannot be established (Peyrot 2008: 31–39).

Paradigmatic alternations between ⟨a⟩ and ⟨ä⟩ on the one hand, and between ⟨ā⟩ and ⟨a⟩ on the other, can be understood as the result of shifts in the position of the accent. Such alternations can be seen in, e.g., TB *tāka* /táka/ 'he/she was' : *takāre* /takáre/ 'they were', *yaltse* /yə́lᵗse/ 'thousand' : *yältsenma* /yəltᵗsénma/ 'thousands'. As can be observed in these examples, the accent usually falls on the second syllable of the word, unless that is also the final syllable. Thus, if a word has a basic disyllabic form and inflected trisyllabic forms, the accent moves from the first to the second syllable in inflection. In trisyllabic words, no comparable movement is observed; e.g., *takāre-ne* /takárene/ 'they were to him/her' from *takāre* /takáre/ without movement beside *takā-ne* /takáne/ 'he/she was to him/her' from *tāka* /táka/ with movement.

Unaccented /ə/ is syncopated in open syllables, as in *camel* /cə́mel/ 'birth' : *cmela* /cméla/ births' (e.g., Marggraf 1970; Ringe 1987: 254–255). When a Proto-Tocharian final schwa was lost, the preceding syllable may still be accented, even if it is now the second syllable in a disyllabic word; e.g., obl.sg. *säswem̥* /səswén/ to *saswe* /sə́swe/ 'lord', originally PT **səswenə* (Krause & Thomas 1960: 43–44).

In verse, even otherwise accented /ə́/ may be syncopated, often with accentual movement to the preceding syllable (on this topic in more detail, see Winter 1990, Pronk 2009). The accentuation of verse forms is clearly a secondary phenomenon, and will not be discussed further. The relationship between the graphemes for long ⟨ī⟩ and short ⟨i⟩ and between ⟨ū⟩ and ⟨u⟩ do not consistently indicate the place of the accent. Furthermore, the spelling of the phonemes /e/, /o/, /ay/ and /aw/ give no indication of accentuation at all, so that our understanding of the Tocharian B accent is essentially based on the behaviour of /ə/ and /a/ (Marggraf 1970: 9–10; Winter 1990: 371).

In Tocharian A there are no comparable alternations in the spelling to give any indication of the position of the accent. The graphemes ⟨ā⟩, ⟨a⟩ and ⟨ä⟩ each consistently represent separate Tocharian A sounds. For synchronic Tocharian A there is thus no direct way to determine the position of the accent. However, due to certain sound laws that operated in the prehistory of Tocharian A, it can be surmised that the position of the accent was on the first syllable, seeing as non-first syllable vowels undergo various processes of weakening and deletion. The position of the Tocharian A accent as can be inferred from sound changes will be elaborated in subsection 5.5.1.

This brief introduction has provided an overview of the Tocharian accent and how it is spelled, and now the following sections will be devoted to various topics that are closely associated with accentuation. Frequent reference will be made to other works concerned with the Tocharian accent and its development, in particular Marggraf (1970), Winter (especially 1993, 1994a), Pronk (2009), Malzahn (2010 *passim*), Peyrot (2013 *passim*), and Jasanoff (2015).

5.1.2 Problems with the Tocharian B accent

As seen in the examples provided in the previous subsection, the place of the accent often shifts due to inflection within a paradigm; e.g., TB *saswe* /sə́swe/ 'lord', obl.sg. TB *säswen* /səswén/. These shifts are mostly regular and predictable if the pre-TB syllable structure is taken into account: TB *säswen* is from earlier trisyllabic **səswénə*. Marggraf analysed this by setting up an underlying morphological form as, for example, |səswé-| for TB *saswe* 'lord'. The nominative singular TB *saswe* can then be synchronically analysed as the result of accent retraction from the final syllable to the preceding syllable, schematically |səswé| + # → /sə́swe/. The oblique TB *säswemṃ*, meanwhile, with its additional ending, can be understood as |səswé| + |nə| → /səswén/. The final schwa that was lost would thus still have its effects in the phonology of the accent.

Similarly, when a pronoun suffix is added to a verbal form like TB *kameṃ* 'they came', the position of the accent shifts to yield TB *kmeṃ-ne* 'they came to him/her/it', i.e., |kəmén| + # → /kə́men/ (TB *kameṃ*), but |kəmén| + |ne| → /kménne/ (TB *kmeṃ-ne*). As a result, the stem within a paradigm can generally be regarded as stable on the morphological level despite these accent changes, and any intraparadigmatic changes

observed can be synchronically ascribed to the retraction rule (Marggraf 1970: 15–17). The issue is that there is no concrete evidence that this synchronic morphophonological rule reflects the diachronic development of the accent. The accentual movement between **sáswe* and **səswénə* could theoretically be caused by a historical accentual retraction from **səswé* to **sáswe* beside a lack of retraction in **səswénə*, or from a forward shift in **səswénə* from an earlier **sáswenə* beside a lack of shift in **sáswe*. There is no immediate way to decide between these two possibilities, but our final choice should fall on the analysis that can best accommodate exceptions.

Aside from this general pattern, there are a number of categories that do not show second-syllable accent where it should otherwise be permissible (and thus, sychronically, expected) on account of the presence of a third syllable, but rather have their accent fixed on the first syllable. These categories are seen as aberrant from the point of view of general Tocharian B accentuation and thus require an explanation (e.g., Marggraf 1970: 24–31, Winter 1993, Peyrot 2013: 507–515, Jasanoff 2015). Persistent initial accent is found in many subjunctives of classes [1] and [5], in the causative present-subjunctive [class 9] and causative preterite [2], as well as most sigmatic forms of the preterite class [3] paradigm. Middle forms of thematic verbs belonging to present class [2] and [8] also have their accent fixed on the first syllable. It also concerns the secondary case forms of many disyllabic nouns. Most diachronic accounts of the accent revolve around scenarios designed to account for these categories, as will be discussed in more detail in sections 5.3 and 5.4.

Before delving into the accentually problematic verbal categories, I will first treat the insertion of epenthetic vowels and the loss of original vowels through syncope in order to create a framework against which we can test diachronic theories of the Tocharian accent. Epenthesis and syncope will be treated from a diachronic perspective in section 5.2, while the rest of the present subsection provides an introduction to the interaction between these two phenomena and the Tocharian B accent.

In various verbal and non-verbal categories in Tocharian B we find an epenthetic vowel /ə/, which is invariably accented wherever it occurs, i.e., /ə́/. However, since before epenthesis occurred, no /ə/ was present to be accented at all, our model of the Tocharian accent should explain both how epenthetic /ə/ arose, and how it came to be accented. For this reason, I argue that a diachronic understanding of Tocharian epenthesis should be taken into account in any theory on the development of the Tocharian accent.

The accent also interacted with syncope, which affected several forms cited above already, such as the plural *cmela* /cméla/ from *camel* /cə́mel/ 'birth'. In general, in Tocharian B, any schwa in an open syllable is syncopated unless it is accented. This is the reason for the syncope in *cmela* /cméla/ from earlier **cəmela*. A number of original PIE **e* disappeared without a trace in Tocharian even in the second syllable, where they should have been accented under normal Tocharian B accentuation rules, and thus

immune to syncope. This implies that some kind of early syncope took place before the establishment of Tocharian B accentuation as we know it. This early syncope provides another avenue for our further understanding of the diachronic development of the Tochairan accent, and will be treated in the next section along with epenthesis.

5.2 Epenthesis and syncope

Epenthesis and syncope both affect the Tocharian vowel schwa /ə/, which can derive from five distinct sources. It regularly developed from PIE **i*, **e* and **u*, and from vocalization of syllabic resonants (cf. subsections 2.3.2, 2.4.2 and 2.4.3 for more details), as well as from epenthesis in certain consonant clusters. The latter is our primary concern here. On the other hand, some word-internal etymological PIE **e* vowels are not continued as a Tocharian schwa, which means that they were lost due to syncope. Both developments are important for our diachronic understanding of the position and movement of the Tocharian accent.

5.2.1 General remarks on epenthesis

Both Tocharian languages show epenthesis in a number of clusters. In Tocharian B the epenthetic vowel is written ⟨a⟩, representing an accented schwa /ə́/, while in Tocharian A it is ⟨ä⟩. Not all instances of epenthesis in Tocharian A and B are necessarily part of the same phenomenon. For instance, although the comparison of TA *āṣtär* with TB *astare* /astə́re/ 'pure' or TA *pärkär* with TB *pärkare* /pərkə́re/ 'long' give the impression that **astəre* and **pərkəre*, with schwa, have to be reconstructed for Proto-Tocharian, this is not necessarily the case. In Tocharian A, a schwa is also found in very similar environments in words like *tpär* 'high', *rtär* 'red', even though the Tocharian B cognates *tapre* /tə́pre/ and *ratre* /rə́tre/ show no epenthetic schwa at all. The insertion of *ä* in Tocharian A is a synchronically automatic phenomenon. Since no schwa is found in Tocharian B, a Proto-Tocharian reconstruction for such words as ***təpəre*, ***rətəre* is unmotivated, especially since such forms should yield TB ***tpare*, ***rtare* with regular Tocharian B accent on the second syllable. The correct reconstructions are thus PT **təpre* 'high' and **rətre* 'red'.

The schwa found in TA *āṣtär* 'pure' and *pärkär* 'long' can simply be conditioned by word-final position of the cluster after apocope (cf. the m.obl.sg. *āṣträṃ* and *pärkreṃ* without epenthesis in the same cluster), making it ambiguous whether to reconstruct PT **astre* and **pərkre* or **astəre* and **pərkəre*. TB *astare* and *pärkare* could theoretically be derived from **astre* and **pərkre* with a different epenthesis rule than the one that operated also in TA *tpär* and *rtär*. The epenthesis in TB *astare* and *pärkare* might be dated either before Proto-Tocharian or after Proto-Tocharian in pre-Tocharian B. In either case, this epenthesis rule is of great interest to the development of the Tocharian

B accent. After all, the resulting epenthetic vowel ended up being accented in TB /astə́re/, /pərkə́re/.

In Tocharian B, epenthesis of this kind has been analysed in different ways. According to Ringe (1987), the epenthesis occurred in a cluster *-CCR-*, or in *-CR-* when preceded by the Proto-Indo-European accent; e.g., PIE **bʰr̥ǵʰrós* > TB *pärkare* /pərkə́re/ 'long', PIE **kʷékʷlos* 'circle, wheel' > TB *kokale* /kokə́le/ 'cart'. Either presence or lack of epenthesis would be the only reflex of the original accentuation otherwise preserved to a late stage of Tocharian. The only two examples with epenthesis due to an original Proto-Indo-European initial accent are TB *kokale* 'cart' from PIE **kʷékʷlos* 'circle, wheel' and TB *ṣpane* 'sleep' from PIE **su̯épnos* 'id.'.[44] Its explanatory power is thus very low, and Ringe does not attempt to apply these rules outside of the noun.

Epenthesis was disconnected from the placement of the Proto-Indo-European accent by Pronk (2009: 101–103), who argued that epenthesis occurred in any cluster *-CR-* that was not preceded by just a schwa in the syllable before it; in other words, any sequence *-CCR-* or *-*$V_{[\text{non-}ə]}$*CR-* underwent epenthesis. Looking at some of the same examples as above, in accordance with this rule it occurred in (pre-)PT **astre* as it developed to TB *astare* /astə́re/ 'pure' and also in (pre-)PT **wəntre* to TB *wäntare* /wəntə́re/ 'thing' (both representing the condition *-CCR-*), but not in PT **təpre* to TB *tapre* /tə́pre/ 'high' (representing the type *-əCR-*).

A very similar rule concerning consonant clusters and "heavy" or "full" vowels (i.e., non-*ə*) was also posited by Kim to account for the distribution of the allomorphs *-ná-* and *-ána* in Tocharian B class [6] nasal presents. Kim explicitly regards also */i/ and */u/ as light vowels like */ə/, and thus not causing epenthesis (Kim 2007a). However, these epenthesis rules as formulated by Pronk and Kim do not work entirely as expected. There are a number of examples of *-CR-* that are consistently attested without epenthesis even after a heavy vowel, e.g., *etre* 'hero' rather than ***etare*, *prākre* 'firm, hard, solid' rather than ***prakare*, *ṣotri* 'sign' rather than ***ṣotari*, etc. For Pronk (2009), the only example treated in his article that would actually suggest influence from a heavy vowel is *waṣamo* 'friend', and with a diphthong *aiśamo* 'wise'. In both cases, the palatalized consonant before the schwa indicates that there may have been a palatalizing vowel there originally, so that probably no epenthesis would be required at all.[45]

---

[44] TB *ṣkas* /ṣkə́s/ 'six (6)' from PIE **s(u)eḱs* 'id.' was also derived in this way by Ringe (1987: 258–259, 263), but he later, correctly, pointed out that this form was abstracted from the ordinal TB *ṣkaste* (Ringe 1996: 76). TA *ṣäk* is the regular reflex of PIE **s(u)eḱs*.

[45] Pronk (2009: 82–83) suggests that the palatalization in these forms is secondary, based on the absence of palatalization in TB *orkamo* 'dark' with the same suffix. However, the basis for the derivatives may have been different. For instance, TB *ayk-* 'know' forms a thematic present, which shows the allomorphs |ayśə-| and |ayke-|, and if the former was used as the basis for *aiśamo* 'wise', the schwa may have been introduced in that way; cf. also *ṣlyamo** 'flying' and *alāṣmo* 'sick', both

For Kim (2007a) the conditioned epenthesis in *-CR-* after a heavy vowel is relevant for /rapə́na-/ 'dig; plough', /walə́na-/ 'cover', and /tˢapə́na-/ 'crush' with a heavy vowel, and for /laykə́na-/ 'wash', /kautə́na-/ 'chop' and /kraupə́na-/ 'gather' with a diphthong. On the other hand, no epenthesis occurred in /tˢakná-/* 'bite' (attested *tsāknaṃ* with accent retraction, in prose), while it did in /ritə́na-/ 'seek', both counter to Kim's rule. It thus seems that a further specification is desirable, and it will be necessary to consider the development of the *na*-presents [class 6] in more detail.

5.2.2 Epenthesis in *na*-presents

The development of the nasal suffix of the *na*-presents [class 6] is very relevant for our conception of epenthesis, seeing as the variant *-ə́na-* ⟨ana⟩ next to *-ná-* ⟨nā⟩ can best be derived by such a mechanism.[46] As mentioned at the end of the previous section, Kim (2007a) has explained the distribution of the suffix allomorphs based on a combination of vowel weight and consonant clusters. Kim determined that a root containing either a heavy vowel or a consonant cluster received an epenthetic vowel, and thus showed the allomorph *-ə́na-*. Earlier, Marggraf (1970: 17–18) also gave the consonant cluster as a conditioning, although he did not go into as much detail. Kim mentions as the remaining counterexamples *tələ́na-* 'bear' and *kərsná-* 'cut off', leaving aside *tˢakna-* 'pierce, bite' and *pərsná-* 'sprinkle' as only appearing in metrical texts (Kim 2007a: 80–81 incl. fn. 30). Based on those counterexamples, as well as *ritə́na-* 'seek', *kəltˢná-* 'oppress' and *wərná-* 'turn (intr.) (?)' (apparently from a root **wərta-*), Malzahn (2010: 414–416) rejects Kim's proposed rule. Lack of epenthesis in *tˢakna-* 'bite' and *pərsna-* 'sprinkle' is found also in prose, Malzahn points out, so that these counterexamples cannot be dismissed so easily. Malzahn instead derives the suffix variant *-ə́na-* from an original locus in *tələ́na-* restored from *təllá-* from **təlna-* 'bear' (Malzahn 2010: 416–417). However, Malzahn's preferred account leaves the significant correlation of root shape and epenthesis as noted by Kim and Marggraf unexplained. I will argue that only one of the conditions posited by Kim is correct: roots ending in a final cluster induced epenthesis of the type *-CCn-* > *-CCən-*. The root vowel is of no influence, however. Apparent exceptions become understandable if

from the palatalized root allomorph. Furthermore, a structure |-əmo|, with a stable schwa, may need to be set up for this suffix at some point in time, on account of *mlamo* from *məl-* 'melt': *|məlmo| should have yielded simply **malmo* by regular sound law due to liquid metathesis changing *CRə́C* to *Cə́RC*.

[46] Although Pronk (2009: 85–86) does entertain the possibility that the schwa arose as a reflex of an original syllabic resonant in the third person plural, e.g., **kr̥s-n̥h₂-enti* > **kərsənan* and analogical spread in some verbs. The eventual distribution, as we will see, speaks against such a scenario.

we consider how analogy would logically have applied after the effects of some other Tocharian B sound laws involving metathesis, deletion and assimilation.

5.2.2.1 The suffix variant *-ná-*

The majority of *na*-presents that have the suffix allomorph *-ná-* ⟨-nā-⟩ are indeed based on roots that originally ended in a single consonant. The most straightforward examples are given here in Table 5.2.

Table 5.2: Tocharian B nasal presents without epenthesis.

Root	Meaning	Diagnostic examples	Analysis
kləts-a-	'oppress'	prs.ger. *kälsnāle*[(a)] THT 497 a4	|kləts‹n›á-|
kʷəsa-	'lament'	prs.mid.3sg. *kwäsnāträ* THT 88 b1	|kʷəs‹n›á-|
təla-	'bear'	prs.act.3pl. *tallaṃ* THT 44 b2	|təl‹n›á-|
		prs.ger. *tällālle* PK AS 6A b2	
		prs.mid.3sg-1sg. *tlanatär-ñ* THT 17 a2	|təl‹án›a-|
		prs.mid.3pl-1sg. *tlanantär-ñ* IOL Toch 169 b3	
trəwka-	'allot to'	prs.ger. *truknālle* THT 497 b5	|trəwk‹n›á-|
pəka-	'intend'	prs.mid.2sg. *päknāstar* THT 45 a1	|pək‹n›á-|
		prs.mid.3sg. *päknāstär* PK AS 17K a3	
		prs.mid.3pl. *päknāskenträ* THT 273 a2	
		ipf.mid.3sg. *päknāṣṣiträ* PK NS 76 a5	
pərsa-	'sprinkle'	ipf.act.3pl. *pärsnoṃ* THT 17 a4	|pərs‹n›á-|
		prs.ger. *pärsnālle* PK AS 8C b7	
pəla-	'praise'	prs.mid.1sg. *pällāmar* THT 596 a4	|pəl‹n›á-|
		prs.mid.3sg. *pällāträ* THT 16 a6	
		prs.mid.3pl. *pällānträ* IOL Toch 1020 a2	
prəwka-	'leap'	prs.act.3sg. *pruknaṃ* PK AS 7M a6	|prəwk‹n›á-|
		prs.mid.3pl. *pruknānträ* IOL Toch 1 a4	
		ipf.act.3pl. *pruknoyeṃ* PK AS 15B b4	
məwsa-	'rise (itr.)'	prs.mid.3sg. *musnāträ* THT 119 a2	|məws‹n›á-|
		prs.mid.3pl. *musnāntär* IOL Toch 1 a5	
yəka-	'be careless'	prs.mid.3sg. *yäknāstär* THT 305 b6	|yək‹n›á-|
		sbj.mid.3pl. *yäknāntär* THT 13907 b7	
səwka-	'bring'	prs.act.3sg. *suknaṃ* PK AS 15C b4	|səwk‹n›á-|
		prs.act.3pl. *suknaṃ* IOL Toch 14 b2	
		prs.ptc. *suknāmane* PK AS 17C a2	

Root	Meaning	Diagnostic examples	Analysis
skaya-	'strive'	prs.act.2sg. *skaināt* PK NS 167 b2 prs.act.3sg. *skainaṃ* PK AS 7M a2 prs.act.3pl. *skainaṃ* THT 286 a5 prs.ptc. *skaināmane* THT 95 a3 prs.ger. *skainālle* THT 192 a2	|skay‹n›á-|
skəra-	'scold'	prs.act.3sg. *skarraṃ* IOL Toch 124 a1 prs.ptc. *skärrāmane* THT 85 b6	|skər‹n›á-|
tˢaka-	'bite'	prs.act.3sg. *tsāknaṃ* IOL Toch 4 a6 ipf.act.3pl-2sg. *tsaknoyeñ-c* THT 231 a4	|tˢak‹n›a-|

(a) *kälsnāle* with a simplification of expected *-ltsn-* to *-lsn-*. The subjunctive act.2sg. *klātsāt* (THT 91 a2) shows that the original stem is *klətˢa-* rather than ***kəltˢa-* (see Peyrot 2013: 746).

This category also includes the *na*-subjunctives *päknā-* 'intend' and *yäknā-* 'be careless' (with their derived *nask*-presents [class 10]), and assimilated forms with earlier **-ln-* and **-rn-* in *tällā* from *təla-*[47] 'bear', *pällā-* from *pəla-* 'praise', and *skärrā-* from *skəra-* 'scold'. The present *pärsnā-* of *pərsa-* 'sprinkle; spray' can be included here if derived from **prəs‹n›a-* before liquid metathesis, just like *käl(t)snā-* from **klətˢ‹n›a-* 'oppress', cf. TA prt.act.3pl. *prasar*; in this way it is not a counterexample.[48]

Other *na*-presents with the suffix allomorph *-ná-* were subject to analogical changes after regular sound laws obscured the shape of the root. These are given in Table 5.3 and discussed below.

[47] Middle forms of this verb have the nasal suffix allomorph *-ə́na-* rather than *-ná-*, but those are probably created secondarily; cf. Malzahn (2010: 417).

[48] The attested finite forms with a nasal suffix prs.act.3pl. *parsnān* in THT 121 a6 (arch.) ipf.act.3pl. *pärsnoṃ* in THT 17 a4 are both attested in verse, and could thus represent syncopated forms. However, the gerund *pärsnālle* is found in prose in PK AS 8C b7.

Table 5.3: Tocharian B nasal presents with special developments and no epenthesis.

Root	Meaning	Diagnostic examples	Analysis
kəta-	'strew'	prs.act.3sg. *katnau* THT 205 a3	|kət‹n›a-|
		prs.act.3sg. *katnaṃ* THT 17 b2	
		prs.ger. *kätnālle* PK AS 3B a6	
		prs.act.3pl. *käṃtaṃ* (arch.) THT 545 a5	|kə‹n›ta-|
		prs.ger. *käntalle* THT 1535.a a5	
kəlpa-	'obtain'	sbj.act.2sg. *källāt* THT 286 a3	|kəl(p)‹n›a-|
		sbj.act.3sg. *kallaṃ* THT 27 a4	
		sbj.act.1pl. *källām* THT 17 a4	
		sbj.act.3pl. *kallaṃ* IOL Toch 253 a1	
		opt.act.3sg. *kalloy* THT 42 b5	
		sbj.ger. *källālle* THT 597 a1	
		vn. *källalñe* THT 181 a5	
		inf. *källātsi* THT 127 b5	
kərsta-	'cut off'	prs.act.2sg. *kärsnāt* THT 1573.a a3	|kərs(t)‹n›a-|
		prs.act.3sg. *karsnaṃ* PK AS 4A b1	
		prs.act.3sg-3pl. *kärsnān-m*= THT 2 b3	
		prs.act.3pl. *karsnaṃ* PK AS 7K a1	
		prs.mid.3sg. *kärsnātär* THT 18 a5	
		ipf.act.3pl.-2sg. *kärsnoyeñ-c* THT 231 a4	
		prs.ptc. *kärsnāmane* PK AS 1B a1	
kləwpa-	'rub'	prs.mid.3sg. *klupnāträ*[(a)] THT 334 b6	|kləwp‹n›a-|
wərta- (?)	'turn (itr.) ?'	prs.ptc. *wärnāmane* PK AS 17A b6	|wər(t)‹n›a-|

(a) Written as though *kluṣnāträ*, but see Adams (1983: 611; 2013: 244) for the interpretation of this form as *klupnāträ*; cf. also Malzahn (2010: 628)

The two roots *kəta-* and *klupa-* have only a single internal consonant, so that the allomorph *-ná-* is entirely expected. However, these consonants should have interacted with the *-n-* of the suffix by sound law. Regular forms were apparently restored without added epenthesis, after regular metathesis and assimilation had affected the integrity of the root: *kəta-* 'strew' shows both regular *käntā-* and renewed *kätnā-*. Similarly, *klupnā-* 'rub' has to be restored from expected ***klunmā-* from **kləwp‹n›a-*, with the Tocharian B change of **-pn-* to *-nm-*. The regular development of this cluster is seen for example in *yänmask-*, the present [class 10] to *yəp-* 'enter', and in *sänmetse* 'in a trance-like state' from **səpn-*, a root meaning 'sleep'. These phonological changes are important for our understanding of a number of *na*-presents with the allomorph *-ə́na-*, as will be discussed further below.

Next, *kärsnā-* from **krəst‹n›a-* 'cut off' and *wärnā-* from **wərt‹n›a-* 'turn (intr.) (?)' are two examples with *-ná-* that do have a stem with a consonant cluster, in both cases *-Ct-*, to which the *n-* of the nasal suffix is attached directly. It has to be assumed that the root-final *-t* was assimilated to the nasal suffix and deleted before epenthesis occurred; the deletion of the *-t* is necessary in any case to arrive at the attested forms. The nasal present *kärsnā-* 'cut off' thus derives regularly from **krəstna-* by first a change from **krəstna-* to **krəsna-* with deletion of the **-t*, bleeding the epenthesis rule, after which liquid metathesis yielded **kərsna-*, in its turn counterfeeding epenthesis.[49]

The simplification of *-rtn-* seen in *wärnā-* apparently also bled epenthesis and counterfed the assimilation seen in *skärrā-* < **skərna-* 'scold' (note, however, that *wärnā-* is a hapax legomenon in a prs.ptc. *wärnāmane*, and the *-rt* is not actually attested as such, only inferred based on the lack of assimilation of *-rn-* > *-rr-*; see Peyrot 2013: 822 with fn. 854).

A final striking form from a root with a consonant cluster is the *na*-subjunctive *kəllá-* (a former *na*-present; Peyrot 2013: 737 fn. 135) from *kəlp‹n›a-* 'obtain': apparently also the **-p-* was lost in the cluster **-lpn-*, after which *-ln-* underwent the same regular assimilation as also seen in *pällā-* 'honour, praise' and *tällā-* 'carry'. As it is probably safe to say that there are no analogical processes by which a stem *kəllá-* could be secondarily derived from a root *kəlpa-*, the development that leading to this form must be regular by sound law. The fact that we see no epenthesis indicates that the sound law by which **-p-* was deleted in this context preceded epenthesis, since the cluster *-lpn-* should definitely count as heavy.

5.2.2.2 The suffix variant *-ə́na-*

Turning now to those *na*-presents that have the suffix variant *-ə́na-* ⟨-ana-⟩, I will first give the examples that end in a consonant cluster and can have developed regularly by simple epenthesis in a cluster *-CCn-* here in Table 5.4.

Table 5.4: Tocharian B nasal presents with clusters and regular epenthesis.

Root	Meaning	Diagnostic examples	Analysis
kətka-	'cross'	prs.act.3sg. *kätkanaṃ* THT 29 b4 prs.ptc. *kätkanamāne* (arch.) SI B 119(2) b6	|kətk‹ə́n›a-|
kərka-	'steal'	ipf.mid.3sg. *kärkänoyträ* (arch.) THT 1312 b1 prs.ptc. *kärknāmane* PK AS 15D a3 (verse)	|kərk‹ə́n›a-|

[49] See Kim (2007a: 87–97) for a more detailed account of the development. In short, an earlier shape of the root as |krVsta-| (with ablaut) can be inferred from the sbj.act.3sg. *krāstäṃ*, and according to Peyrot (2013: 742 fn. 171) also from the lack of palatalization in the preterite.

Root	Meaning	Diagnostic examples	Analysis
kərsa-	'know'	prs.act.2sg. *kärsänatä* (arch.) PK AS 12B b6 prs.act.3sg. *kärsanaṃ* THT 523 b6 prs.mid.3sg. *kärsanatär* THT 543 b2 prs.ger. *kärsanalle* PK AS 7B b4	|kərs‹ə́n›a-|
tərka-	'let go'	prs.act.1sg-2sg. *tärkanau-c* IOL Toch 31 b4 prs.act.2sg. *tärkanat* PK Bois B17 a1 prs.act.1pl. *tärkanam* THT 107 b2 prs.act.2pl. *tärkanacer* THT 108 a7 prs.ger. *tärkanalle* THT 337 b3	|tərk‹ə́n›a-|
nətka-	'push away'	prs.ger. *nätknallona* THT 8 b1 (verse syncope)	|nətk‹ə́n›a-|
pləska-	'think'	prs.act.3sg. *pälskanaṃ* PK NS 58 a4 ipf.act.1sg. *pälskanoym* THT 496 a3 prs.ptc. *pälskanamane* THT 1681 a1	|pləsk‹ə́n›a-|
mansa-[50]	'be sad'	prs.mid.3sg. *mantsanatär* IOL Toch 1 a1 prs.ptc. *mantsanamane* PK NS 407 a1	|mant^{s}‹ə́n›a-|
yəksa-	'embrace'	prs.mid.3sg-3sg. *yäksanatär-ne* THT 354 a2	|yəks‹ə́n›a-|
latka	'cut off'	ipf.act.3pl-2sg. *latkanoyeñ-c* THT 231 a5	|latk‹ə́n›a-|
walt^{s}a-	'grind'	prs.act.3sg-pl. *waltsanan-me* PK AS 19.3 a1 prs.ger. *waltsanalle* PK AS 3A b3	|walt^{s}‹ə́n›a-|
stawkka-	'swell'	prs.mid.3sg.-pl. *staukkanatär-me* IOL Toch 306 b5	|stawkk‹ə́n›a-|
t^{s}arka-	'torment'	ipf.act.3sg. *tsarkanoy* PK NS 163 b6 ipf.act.3pl-2sg. *tsarkanoyeñ-c* THT 231 a5 prs.ger. *tsarkanalle* IOL Toch 213 a5	|t^{s}ark‹ə́n›a-|

Evidently, the clusters **-rkn-*, **-rsn-*, **-skn-*, **-ksn-*, **-tkn-*, **-nsn-* **-lt^{s}n-* and **-kkn-* avoided simplification, all undergoing epenthesis instead.

The verbs with a root ending in final *-tk* merit a brief elaboration because that type usually shows an *ṅk*-present [class 7] instead; *kətka-* 'cross' and *nətka-* 'push away' actually both have a *ṅk*-present [7] attested beside the *na*-present [6] listed in the table, and the Tocharian A cognate of *latka-* 'cut off' has a *ṅk*-present [7] as well. If these verbs had a *na*-present [6] **kətkna-*, **nətkna-*, **latkna-* at the time of epenthesis, they can of course be considered regular from that point onward, even if they were created analogically at an earlier stage.

[50] A secondary nasal present next to a thematic present, see Peyrot (2013: 791 fn. 588, 589).

The rest of the *na*-presents belonging to this group with the suffix variant *-ə́na-* require a more detailed explanation. They are provided in Table 5.5 and treated underneath.

Table 5.5: Tocharian B nasal presents with analogical epenthesis.

Root	Meaning	Diagnostic examples	Analysis
kawta-	'split'	ipf.act.3pl-2sg. *kautanoñ-c* THT 231 a5	|kawt‹ə́n›a-|
krawpa-	'gather'	prs.mid.3sg. *kraupana(t)rä* THT 1209 a2 prs.ger. *kraupanallona* THT 1209 b2–3	|krawp‹ə́n›a-|
rapa-	'dig; plough'	prs.act.3sg. *rapanaṃ* IOL Toch 246 a1 prs.mid.3sg. *rapanaträ* THT 3998 a1	|rap‹ə́n›a-|
rəyta-	'seek'	prs.act.3sg. *(r)itanaṃ*[(a)] prs.mid.3sg-2sg, *ritanatär-ś*[(a)]	|rəyt‹ə́n›a-|
wala-	'cover'	prs.mid.1sg. *walanamar* IOL Toch 785 b1 prs.ger. *walanalle* W 14 b2	|wal‹ə́n›a-|
tˢapa-	'crush'	prs.ger. *tsapanale* PK AS 8B a2 prs.ger.f.pl. *tsapanallona* PK AS 19.1 a5	|tˢap‹ə́n›a-|

(a) Both in unpublished texts, see Malzahn (2010: 824)

First, I will consider some roots ending in a single consonant that ended up with an epenthetic vowel. This category includes the roots on which Kim (2007a) based his conclusion that heavy vowels caused epenthesis in the following cluster.

Two examples have a *-t-*: *rəyta-* 'seek' with the nasal present stem *ritana-* and *kawta-* 'chop' with the nasal present stem *kautana-* (cf. Table 5.5). Without epenthesis, which is definitely not expected in the former according to Kim's rule whereby only heavy vowels cause epenthesis in *-Cn-*, the cluster **-tn-* should have regularly metathesised to **-nt-*, yielding ***rintā-* from **rəyt‹n›a-* and ***kauntā-* from **kawt‹n›a-*. Such forms must have been restored to having a nasal suffix rather than a nasal infix, just as happened to the stems of *kəta-* 'strew': *kätnā-* is found next to *käntā-* (cf. Table 5.3). The only difference is that the other suffix allomorph **-ə́na-* was used instead of *-ná-* in these cases.

Even more extreme changes would have affected the roots ending in *-p*, namely **krawp‹n›a-* to **krawnma-* remade as *kraupana-* 'gather', **rap‹n›a-* to **ranma-* remade as *rapana-* 'dig; plough', and **tˢap‹n›a-* to **tˢanma-* remade as *tˢapana-* 'crush'. These analogical restorations are obviously well-motivated, and appropriate models would have been readily available from the type of nasal presents as listed in Table 5.4 above.

One further root with final *-l*, namely *wala-* 'cover', should have developed as **walná-* > **wallá-* by regular sound law, cf. **pəlna-* > *pällā-* 'honour, praise' in the previous

subsection. Since the attested stem is *walana-* /walə́na-/, a renewal must have taken place.

Thus, roots ending in single stop **-t* or **-p*, as well as those ending in a single **-l* are liable not to exhibit the forms that would be expected by sound law. Regular developments would have made either the root or the nasal suffix less recognisable, which meant that they could be reshaped by analogy. As a consequence, the variation between the suffixes *-ná-* and *-ə́na-* found in these roots has no real bearing on our rules for epenthesis; evidently both *-ná-* and *-ə́na-* were available for use in restoration. Since all of Kim's examples to suppose that a heavy vowel promoted epenthesis belong to this category (viz., *rapa-*, *wala-*, *tˢapa-*, *kaupa-*, *kauta-*), that rule can be left aside. The exceptional status of *tˢaka-* 'bite' with a full vowel but no epenthesis can be resolved in this way, and the remaining example of epenthesis with neither a consonant cluster or a heavy vowel, *rəyta-* 'seek', also belongs to the group where analogical developments are likely.

A few remaining roots ending in a cluster, which I argue is the sole requirement for epenthesis, require a little more explaining, but they do not change the general picture. They are listed in Table 5.6, and explained below.

Table 5.6: Tocharian B nasal presents with remaining special situations.

Root	Meaning	Diagnostic examples	Analysis
alpa-	'stroke'	prs.act.3pl. *alpanaṃ* IOL Toch 1 b2	|alp‹ə́n›a-|
kanta-	'rub off'	ipf.mid.3sg. *kantanoy*(*tr*)*ä* THT 429 a3	|kant‹ə́n›a-|
layka-	'wash'	prs.mid.3sg. *laikanaträ* IOL Toch 262 b4	|layk‹ə́n›a-|
wənta-	'cover'	prs.act.3pl-2sg. *wäntanañ-c* (arch.) THT 567 b3	|wənt‹ə́n›a-|
wərpa-	'enjoy'	prs.mid.1sg. *wärpanamar* IOL Toch 183 b1 prs.mid.3sg. *wärpanaträ* THT 42 b3 prs.mid.3pl. *wärpanantär* PK AS 7N b4 prs.ptc. *wärpanamane* THT 558 a1 prs.ger. *wärpanalle* THT 1220 b1	|wərp‹ə́n›a-|
		prs.mid.2sg. *wärpnātar* (arch.) THT 128 b2 prs.mid.3sg. *wärpnāträ* THT 521 b1	|wərp‹n›á-|
tˢalta-	'chew'	prs.ptc. *tsaltanamane* IOL Toch 269 b4	|tˢalt‹ə́n›a-|

The *na*-presents of *alpa-* 'stroke', *kanta-* 'rub off', *wənta-* 'cover', *wərpa-* 'enjoy' and *tˢəlta-* 'chew' are all special in some way. Based on the development of **kəlpna-* to *källā-* 'obtain' (discussed at the end of the previous subsection), which must be phonologically regular, also **alpna-* to ***alla-* is expected. We find *alpana-* 'stroke' instead, so that this root was

evidently renewed.[51] The motivation for such a renewal is obvious. A development of **wərpna-* to **wərna-* (or **wərra-*), whence analogically both /wərpə́na-/ and /wərpná-/ 'enjoy' can also be assumed.

The stem *laikana-* /laykə́na-/ from **layk‹n›a-* 'wash' does not neatly fit. This example could theoretically indicate that *-ay-* caused epenthesis (as assumed by Kim 2007a), and one could also think that the sequence **-ykn-* counted for the condition *-CCn-*, but I can see no clear further indication in support of either solution. The present *laikana-* was likely remade from earlier **laynka-*, with an old nasal infix (see Peyrot 2013: 539), so that it is probably not a reliable witness.

It is furthermore very likely that **wəntna-* 'cover' would have lost its root-final stop, becoming **wənna-*, fit for restoration to yield attested *wəntəna-*. The nasal present *tˢaltana-* 'chew' may be recent according to Peyrot (2013: 841), so either it was formed directly with the suffix *-ə́na-* after that had been established by epenthesis in other forms, or it is renewed from otherwise likely ***tˢalna* from **tˢaltna-*, cf. *kärsnā-* from **krəstna-* 'cut off'. The implication of this analysis of the suffix of the *na*-present [6] will be discussed in the next subsections.

5.2.2.3 Conclusions and Tocharian A nasal presents

Based on the previous two subsections, the Tocharian *na*-presents [6] can be divided into three groups:

i) roots without an original root-internal cluster or with a cluster that was reduced early on (like **kəlpna-* > **kəlna-* > TB /kəlla-/ 'obtain') received the more basal allomorph *-na-*;
ii) roots with an original cluster that was not reduced due to contact with the nasal of the suffix generated a new allomorph **-əna-* from **-na-* by epenthesis;
iii) roots with a **-t-*, **-p-* or **-l-* that did not undergo epenthesis underwent assimilation and/or metathesis, and could be secondarily restored and redistributed to either of the other two categories.

The developments in the nasal presents attest to a relative chronology of five sound changes as follows:

---

[51] If one assumes with Kim (2007a) that the difference in the developments of pre-TB **alpna-* and **kəlpna-* is due to the *a*-vowel causing epenthesis in **alpna-* but not in **kəlpna-*, two separate epenthesis rules would be required. First epenthesis after an *a*-vowel to yield **alpəna-* beside **kəlpna*, followed by deletion of the **-p-*, and then second epenthesis in consonant clusters. This is not sufficiently supported by the evidence.

1) *-lpn-* > *-ln-* (and perhaps *-rpn-* > *-rn-*);
2) *-ln-*, *-rn-* > *-ll-*, *-rr-*;
3) *-rtn-*, *-stn-* > *-rn-*, *-sn-*;
4) epenthesis *-CCn-* > *-CCən-*;
5) liquid metathesis *CRəC* > *CəRC*.

The relative order of (2) before (5) was also pointed out by Malzahn (2010: 417) on the basis of *kəln-* 'resound/howl (?)' from earlier **klən-*. Changes (2) and (3) can be parallel to (4) and (5) if clusters of the type **Ctn* were immune to epenthesis anyway, perhaps because *t* and *n* are homorganic. The placement of the changes from **-tn-* to *-nt-* and from **-pn-* to *-nm-* in the relative chronology is not certain, but the latter is only found in Tocharian B. Metathesis of **-tn-* to **-nt-* is found in Tocharian A only in *länt-* 'go' from **lətn-*, and seems to have been undone or secondarily obscured elsewhere (Peyrot 2013: 446–447).

Liquid assimilation of *-ln-* > *-ll-* happened in Tocharian A as well, cf. TA prs.mid.3pl. *pällānträ*, TB prs.mid.3pl. *pällānträ* from **pəlna-* 'praise'. Based on the correspondence TA *tālo*, TB *tallā$_u$* 'miserable', Ringe considers it a shared development and traces it back to Proto-Tocharian (1996: 165). TA *tālo*, TB *tallā$_u$* could be derived from PT **tallə́wə* with regular simplification of the geminate in A. However, in most other instances of this sound law in Tocharian B, Tocharian A does show a geminate *-ll-*, which should then be from restored **-ln-*, e.g., in TA *pällānträ* (TB *pällāntär*) from the nasal present **pəlna-* of **pəla-* 'praise', TA *källāṣ* (TB *källāṣṣä-ṃ*) from the present **kəlna-* of **kəla-* 'bring'. Only TA *wläṣtär* 'die' (attested once, no cognate in TB) has a singleton *-l-* from presumed PT **-ll-*, next to a geminate in the more frequently attested *wälläṣtär* (restored via **-ln-* according to Ringe 1996: 165).

However, Peyrot (2013: 755 fn. 275, 281) points out that the geminate in TB *tallā$_u$* can be interpreted as an analogical introduction from the *na*-present instead, since the *a*-grade of *tallā$_u$* does not match the *ə*-grade of the present stem *tällā-* /təllá-/ itself, so that the adjective does not appear to be derived from the *na*-present directly. Thus, this geminate is possibly specific to Tocharian B. TA prs.mid.3sg. *wläṣtär* 'die' (A 102 a5) and the present-derived infinitive TA *wlässi* (A 65 a2) thus carry the full weight for dating the sequence of the sound change of **-ln-* to **-ll-* to Proto-Tocharian.[52] General degemination in Tocharian A clearly affected the **-ll-* of PT **allekə* 'other', which became TA *ālak*, TB *allek*, but since the geminate here derives from **-l̥̄-* instead of **-ln-*, it does not directly

[52] Non-simplified prs.mid.3sg. *wälläṣtär* is found in A 64 b6, A 65 a3 and a4, and *wälläṣträ* in A 117 a5 and in A 125 and THT 1425.e and A 117 a5. If analysed in isolation, *wläṣtär* and *wlässi* look like *s*-presents [class 8]; cf. Peyrot (2013: 117).

give us any insights into the Tocharian A development of *-*ll*- from *-*ln*-, which could also be posited after Proto-Tocharian.

The first change in the relative chronology, loss of *-*p*- in *-*lpn*-, may be independent, since TA *kälpnā*- shows no assimilation. On the other hand, a secondary restoration of the root -*p*- is also possible. The contrast between deletion of the stop in TA *kārna*- of the root *kārpā*- 'descend' vs. retention in TA *wärpnā*- from *wärpā*- 'enjoy' points to this type of analogical restoration in the latter.

Ringe takes the deletion of pre-nasal stops as a general sound law in (late) Proto-Tocharian, but notes that TA *āñcäm*, TB *āñme* 'soul; self' may suggest a (partially) independent development. On account of the sequence of sound changes whereby (2) occurs between (1) and (3), not all stop deletions in (complex) clusters with resonants can have taken place at the same time in any case.

The characteristic Tocharian A change from *-*st*- to -*ṣt*- has occurred in the TA cognate *kärṣnā*- < **kärṣtnā* to TB *kərsná*- < **kərstna*- 'cut off', so that either the deletion of the *-*t*- in *-*Ctn*- occurred independently in Tocharian A and B, or *-*t*- was briefly reintroduced in pre-TA. In theory -*ṣ*- may also have been introduced on the basis of forms like the prt.ptc. *kärṣto* (Ringe 1996: 164). It is thus easiest to assume independent loss of *-*t*- in the cluster *-*stn*- in Tocharian A and B, but analogical developments may have reshaped the evidence. This means that it is also difficult to tell if the subsequent changes of epenthesis and liquid metathesis are independent, since they involve the schwa, on which Tocharian A is not particularly informative.

Kim, in any case, does not consider the epenthesis found in the nasal presents to be of Proto-Tocharian date. The main argument that Kim (2007a: 85–86) advances is that those nasal presents with a heavy vowel in the root show Tocharian A vowel weakening of the *-*ā* in the suffix; viz., TA *kotna*- to *kota*- 'split' rather than **kotnā* (TB *kauta*-), TA *kropna*- to *kropa*- 'gather' rather than **kropnā*- (TB *kraupa*-), TA *skena*- to *ske*- 'strive' rather than **skenā*- (TB *skaya*-), and TA *kārna*- 'to *kārpā*- 'descend' rather than **kārnā*- (TB *karpa*-). However, this reasoning is based on the idea that heavy vowels induced epenthesis even in clusters of the type *-*Cn*-, which I argue is unwarranted. Since there seem to be no examples attested of Tocharian A nasal presents with both a heavy vowel in the root and an original root-final cluster that was definitely not simplified, the vowel weakening found in the nasal suffix cannot be adduced as a secure reason to date epenthesis after Proto-Tocharian. In my opinion, no regular vowel epenthesis is expected in *kotna*- to *kota*- 'split', *kropna*- to *kropa*- 'gather', and *skena*- to *ske*- 'strive' anyway, and the epenthetic vowel attested in the Tocharian B counterparts of the former two is, I argue, analogical (cf. Table 5.5 and accompanying text above).

To briefly wrap up our discussion of the *na*-presents, their development can be understood along similar lines as laid out by Kim (2007a), who considered both root-final clusters and root-internal heavy vowels as causes for epenthesis. It turns out only

the former rule is necessary. Marggraf (1970: 18), giving only two representative examples (viz., |təllá-| and |tərkə́na-|), had already arrived at this conditioning, even though he did not provide an explanation for the exceptions. I argue that the exceptions can best be understood if we consider that a number of forms simply do not represent the regular outcome by sound change, were analogically renewed with good reason, and are thus of little use for the determination of the correct sound laws. The remaining, reliable forms follow a clear pattern that also informs us of the relative chronology of a number of other sound changes. Unfortunately, a dating of these sound changes relative to Proto-Tocharian remains uncertain because the Tocharian A material does not provide us with the much needed, reliable examples.

5.2.2.4 Generalization of the epenthesis rules

An epenthesis rule with full vowels causing epenthesis, as suggested by Kim (2007a) for the *na*-presents, not only failed for certain examples within that category, like the present *tsakna-* of *tsana-* 'bite' but also for words in other categories like *prākre* 'firm'. It was thus not generalisable. On the basis of the distribution of the allomorphs *-ná-* and *-ə́na-* in the nasal presents, I concluded that epenthesis visible in Tocharian B occurred regularly in the sequence *-CCn-*. On account of examples like *astare* 'pure' and *pärkare* 'tall', the rule of epenthesis in *-CCn-* established on the basis of the nasal presents can at least be extended to clusters of the type *-CCr-*. The lack of epenthesis in words like *prākre* 'firm' is thus in line with the epenthetic developments in the *na*-presents. I am not aware of any counterexamples. I think that this generalisability constitutes a further advantage over Kim's analysis, which operates in the isolation of a single morphological category.

It should also be noted that epenthesis is only observable between the first and (pre-epenthesis) second syllable, and is never found after an originally second syllable; we find, e.g., *emparkre* /empə́rkre/ 'widely' derived from *pärkare* /pərkə́re/ 'wide' rather than ***empärkare* /empərkə́re/, and *eṅkatkre* /enkə́tkre/ '± deeply' from *kätkare* /kətkə́re/ 'deep' rather than ***eṅkätkare* /enkətkə́re/. This will be briefly addressed again below in 5.4.2.

Epenthesis cannot be generalized to all resonant clusters *CCR*. The clusters *-CCl-* and *-CCm* are too uncommon, while in clusters of the type *CCw* there are examples with heavy clusters like *entwe*[53] 'then, thereupon' and *kantwo*[54] 'tongue', where no epenthesis is found. A comparison of *wäntare* vs. *entwe* suggests that *w* at least did not behave quite like *r*.

[53] Attested in prose in IOL Toch 4 b2; IOL Toch 131 b3; PK NS 30b2.

[54] Attested in prose in THT 88 a1, and as the per.sg. *kantwasa* in prose in THT 408 a6; a syncopated form of ***käntawo* would furthermore have yielded ***käntwo*.

Pronk (2009: 101) extends the rule for epenthesis to the initial position, in order to explain forms like *pūwarsa* 'fire per.sg.', and also *tuwe* 'you' (~ *twe*) and *ltuweṣ*, where a cluster with *-w* would be broken up. I am not sure that this works. For instance, there is no epenthesis in *śtwer* (**śtuwer*), so that epenthesis of the type under discussion in *ltuweṣ* is unlikely (earlier **śətwer* and **lətweṣ* would be parallel in structure). It is also unclear why specifically the *tw-* in *tuwe* would need to be broken up, while words like *twere* 'door' and *tweye* 'dust' seem to have been perfectly acceptable, as well as *entwe*, and *kantwo*. Pronk (2009: 88 fn. 28) further remarks that it is difficult to determine whether PIE **RH*, as in **puHr* 'fire' could have become pre-TB **əRa* directly without an intermediate stage **Ra*.

Based on *puwar* /páwar/, it seems indeed possible to posit a direct development PIE **puH̥r* > **pu.ar* = *puwar*. On the other hand, for *swāre* 'sweet' obl. *swareṃ* < **su̯H̥d-ro-*, we cannot easily assume earlier ***suware* on account of the accent, which otherwise unexpectedly lands on the third syllable in the oblique *swareṃ* /swarén/ from **swarénə* rather than **səwaránə* (exp. ***səwárenə* with regular accentuation). This would then have to be analogical, from an otherwise perhaps unparalleled stable accent on the apparent first syllable of a (newly) disyllabic *re*-adjective: *swáre* : ***swáren* vs. *tápre* : *təprén* next to obviously trisyllabic *pərkáre* : *pərkáren*. The development of PIE **luHs* 'animal; louse' to TB obl.sg. *luwa* (Del Tomba 2020: 131–133) may provide a parallel to *puwar*.

Remaining cases that apparently show epenthetic vowels not originating in a cluster of the type *-CCn/r-* are found in prs.ptc. *yokamane* of *yok-* 'drink', prs.ptc. *nesamane* of *nes-* 'be', prs.ptc. *pkwamane* and prs.mid.1sg. *pkwamar* of *pəkʷ-* 'rely, trust', *kokale* 'chariot' and *ṣpane* 'sleep'. The first four should all go back to a cluster of the type *-Km-*, where *K* is an obstruent. Perhaps such clusters were subjected to a special epenthesis as well. Words like TB *solme* 'complete(ly)' (not ***solame*) show that no general epenthesis occurred in any cluster *Cm* if the first consonant was a resonant. It is also possible that |yokə-|, |pəkʷə-| and |nesə-| were extracted as the basis for the respective forms from other places of the paradigm, such as prs.3sg. *yokäṃ* /yókən/ analysable as |yokə-n|, prs.3pl. *pkwantär* /pkʷántər/ analysable as |pəkʷə-ntər|, and prs.3sg. *nesäṃ* /nésən/ analysable as |nesə-n|.

TB *kokale* 'chariot' probably goes back to PT **kʷəkʷle* (cf. TA *kukäl*), where the rather unique cluster *-kʷl-* may have been broken up[55], perhaps because it functioned as "*kwl* = *CCR*" for the purposes of epenthesis.[56] No *-kw-* is visible anymore in Tocharian B *kokale*,

[55] TB *pikul* /péykʷəl/ 'year', pl. *pikwala* /pəykʷála/ would adhere to this as well. The syncopated verse form *pik$_u$la* does not have any bearing on epenthesis rules.

[56] Kim (1999) discusses a supposed de-labialization in a similar cluster in *lakle* 'sorrow' from hypothetical **ləkʷle*, even earlier **lukle*. However, the **kʷ* in this case would be of a different

but it must still have been there in pre-Tocharian B in order to change the **ə* of **kʷəkʷle* to a TB *o* (cf. 2.5.6.3 on this development).

The expected outcome of PIE **sy̯epnos* would have been TB ***ṣanme* /ṣə́nme/, with assimilation and metathesis, so that attested TB *ṣpane* 'sleep' needs to have been modified or recreated in some way. The related adjective f.nom.sg. *sänmetsa* /sənmétˢa/ 'calm, tranquil' does show this expected development. Tocharian A *ṣpäṃ* 'sleep' aligns with TB *ṣpane* /ṣpə́ne/, so that the change needs to have happened in Proto-Tocharian already. One could perhaps think of an irregular development like pre-PT **sʸwʸəpne* > **ṣpəne* due to some kind of misattribution of the position of the labial stop element to the labial **wʸ* in the initial cluster, of which no trace remains, but such an irregular change would necessarily remain speculative. A morphological explanation departing from an old genitive **suepns* is offered by Pronk (2009: 107–109), although this cannot be confirmed either. Ringe (1987) explained the epenthesis in TB *ṣpane* as a reflex of the Proto-Indo-European accent on the first syllable in PIE **sy̯epnos*, but since the Proto-Indo-European accent cannot be shown to have an effect in any other development, this solution is highly questionable. TB *ṣpane* alone cannot prove a continued Proto-Indo-European accentuation.

5.2.3 Epenthesis in *s*-preterites

A few other clusters were broken up by epenthetic vowels as well. In the *s*-preterite [class 3], sigmatic forms like TB prt.act.3sg. *otkasa* /otkə́sa/ to *wotk-* 'separate', prt.act.3sg. *yonmasa* /yonmə́sa/ to *yənm-* 'get', prt.act.3sg. *mlautkasa* /mlawtkə́sa/ to *mləwtk-* 'take off (tr.)' and prt.mid.1sg. *sätkasamai* /sətkə́samay/ to *sətk-* 'spread (tr.)' (Winter 1993: 200–201; Malzahn 2010: 192) have an accented schwa between the root and the preterite suffix *-sa*. To explain this situation, Winter posited an earlier suffix form **-ə́sa-* for this sigmatic ending, which would have been preserved only after the four roots mentioned due to their complicated consonant clusters (Winter 1993: 200). However, as Peyrot points out, this reconstruction is hardly supported by the evidence: epenthesis in only those forms of the type *otkasa* accounts for the same distribution, and since epenthesis is needed to get a schwa before the **-s-* from PIE **-s-* anyway, it is more economical to assume that there never was a schwa in those cases where it is not actually attested (Peyrot 2013: 509).

The supposed general presence of a schwa before the suffix **-sa-* is also used to explain the existence of Tocharian A forms like *yāmsāt* < **yaməsatə*, in which vowel weakening would have been expected to yield ***yāmsat* when departing from earlier

nature, from affection caused by the preceding **u*, which is not actually visible in this word, and may not have occurred at all. For example, *tkācer* rather than ***tkwācer* from **tukatʸer* provides strong evidence against a progressive labialization rule.

**yamsatə* (Malzahn 2010: 192). This argument is not compelling, since the vowel of the ending would have been preserved in other forms with the same suffix, and could then easily be generalized to all verbs after vowel weakening stopped being operational. The epenthesis before the sigmatic suffix could therefore also be considered specific to Tocharian B, although this cannot be ascertained. Finally, the rule for this epenthesis needs to be restricted to clusters of three consonants *-CCs-* where the *-CC-* could not function as a syllable coda. This is because similarly long clusters were retained in examples like TB prt.mid.3sg. *eṅksate*, prt.act.3sg.-pl. *ṣerpsa-me* from PT **enksate*, **sʸerpsa-me* (Winter 1993: 200). The accentuation of the *s*-preterite is treated further below in 5.3.3.

5.2.4 Epenthesis in *Cst* and *Csk*

One further environment for epenthetic vowels is actually agreed upon by both Tocharian A and B: an earlier cluster **Cst* is broken up to become TA *-Cäst-* and TB *-Cəst-*. This is reflected in, e.g., TA *ṣkäṣt*, TB *ṣkaste* from **ṣəkəste* < PIE **s(u̯)eksto* '6th' (Ringe 1990: 192–194; 1996: 71). However, whether the *ä* in Tocharian A is to be historically related to the *ə* of Tocharian B is, once again, not immediately clear, since it would have arisen automatically in the synchronic phonology of Tocharian A anyway.

I can think of one structural argument to date this particular epenthesis before syncope, so that it would have been a squarely pre-Proto-Tocharian sound law. In Tocharian B, the cluster *-kṣt-* is allowed, as it appears in, e.g., the prs.act.2sg. *prekṣt* to *prək-* 'ask', from earlier **preksʸətə*. Since *-kṣt-* and *-kst-* are phonologically so similar, assuming epenthesis in the latter, but not in the former, is, in my opinion, rather unattractive. I think it is therefore better if we assume that **-kst-* became **-kəst-* before syncope applied, so that **-kṣt-*, only derived from earlier **-kṣət-*, did not yet exist to become ***-kəṣt-* by epenthesis. Syncope of unstressed /ə/ in open syllables then only came into effect after **Cst* had become **Cəst*, creating **prekṣtə* from earlier **preksʸətə*. The epenthetic /ə/ in *-kəst-* was not deleted by this new syncope rule, because it stood in a closed syllable.

A similar distribution is found in other clusters of this type, e.g., prt.act.2sg. *orasta** (attested as arch. *orästa*; Malzahn 2010: 525–526) to the root *ar-* 'abandon' vs. prs.mid.2sg. *erṣtar* from the *s*-present *er-* 'evoke'. Epenthesis before the cluster **-sk-* appears to be very similar, seen in a number of *sk*-presents like prs.3pl. *yamaskeṃ* /yamə́sken/ from the root *yam-* 'do'. The epenthesis of /ə/ in the clusters *Cst* and *Csk* can be considered (pre-)Proto-Tocharian, and it likely took place before likewise (pre-)Proto-Tocharian syncope of unstressed /ə/ in open syllables. The following subsection is devoted to a more detailed account of this syncope.

5.2.5 Syncope

At the end of the previous subsection, syncope was already briefly considered, and this subsection will provide an elaboration on the topic. We can observe in both Tocharian A and B a tendency to delete **ə* in an open syllable. In Tocharian B this deletion applies only to unaccented **ə*, while in Tocharian A it applies to all **ə* in open syllables. In general, Tocharian A is uninformative with regards to the historical development of **ə* in early Tocharian, as the evidence would mostly have been secondarily lost or altered.

Tocharian B thus retains a more original situation: accented /ə́/ remained in classical Tocharian B prose even in open syllables, so that also in (pre-)Proto-Tocharian /ə́/ should have escaped deletion. As a result, the most straightforward assumption is that any etymological /ə/ that had disappeared in (non-metrical) Tocharian B was unaccented at an earlier stage. This mostly concerns the thematic suffix PIE **e* > PT **ʸə* in thematic present [2] forms like mid.3sg. *āśtär* from **akʸətər* (*ak-* 'lead'), mid.2sg. *aiśtar* from **aykʸətar* (*ayk-* 'know'), and act.2pl. *ṣamcer* from **sʸəmʸətʸer* (*ṣəm-* 'sit'). These forms can therefore be accented as pre-PT **ákʸətər*, **áykʸətar*, **sʸámʸətʸer* respectively at the time of syncope. This is Marggraf's original hypothesis (1970: 21). The palatalizing **ʸə* of the *s*-present [class 8] was another victim of this syncope rule, as we have already seen in the previous section: forms like prs.act.2sg. *tˢəmsʸətə* (*tˢəm-* 'increase') and **preksʸətə* (*prək-* 'ask') became PT **tˢəmsʸtə* and **preksʸtə* to eventually yield TB *tsamṣt*, *prekṣt*. These forms thus reflect pre-PT **tˢámsʸətə*, **préksʸətə*. Winter proposed that an originally accented /ə́/ would have lost the accent and be syncopated before dentals[57], as in **akʸátər* (Winter 1993), but based on the general retention of /ə́/ in open syllables in Tocharian B, this seems unlikely. Instead, the more straightforward assumption is that any schwa that disappeared was simply unaccented at the time of this syncope.[58]

It has been claimed that a schwa in the third syllable was lost especially early, based on the development of the sequence **-skʸət-*. For example, there is no trace of

[57] The prevalence of deletion before dental obstruents, set up by Winter as the general sound law, is only apparently the case, since *p* and *k* are not really well-represented in derivational or inflectional suffixes, and thus do not often appear in the right place in the word. However, TB *eṃṣke* 'up to, until; even; while' must surely have lost an original palatalizing schwa before **k* due to syncope, from earlier **ensʸəke*, since the **s* could not have been palatalized in any other way (cf. Adams 2013: 78).

[58] Pronk adds to Winter's rule for syncope of /ə́/ that it did not apply in the first syllable, on account of forms like *yasa* 'gold', *yasar* 'blood', *wate* 'second', etc. (Pronk 2009: 75). On the whole it is not entirely clear to me whether Winter would not reconstruct *yəsár* at the time depth that he reconstructs /ə́/-deletion before dentals, so that instead the modification could be that pretonic /ə/ was somehow safe from syncope regardless of its accentuation. This would seem to contradict Winter's analysis of the copula, however, since *skʸəté* is required to develop to *s*(*k*)*te* in his model (cf. later in this subsection).

palatalization in the prs.act.2sg *yamast* or prs.mid.2sg. TB *yaməstar* 'do' from **yaməskʸətə* and **yaməskʸətar* respectively. The lack of palatalization of the *-s-* is understandable if the ending had become **-skʸt-* > **-st-* already before regressive assimilation occurred to change **-skʸ-* to **-sʸkʸ-* (eventual TB *-ṣṣ-*) (Couvreur 1947: 63; Peyrot 2013: 510). However, this assimilation does appear to have happened in corresponding forms like the prs.mid.2sg TB *pāṣtar* from the verb *pask-* 'guard'. One may therefore wonder if **paskʸətar* remained as such at the time that **yaməskʸətar* was reduced to **yaməskʸtar* > **yaməstar*. Such a supposed lack of syncope in **paskʸətar* would perhaps be readily understandable by sound law if the accentuation was **paskʸátar*, next to **yamáskʸətar*, with regular second-syllable accent. Essentially that is Winter's explanation for the discrepancy, although he formulates it in terms of a synchronic underlying representation: *|skʸát| would yield |ṣt| and *|skʸət| would yield |st|, according to Winter (1993: 201–203).

Krause (1952: 76), on the other hand, concluded that *paskʸətar* did undergo syncope to **paskʸtar* with subsequent development to **pastar*, but that the alternation of root-final *-sk* : *-s* was restored to more regular *-sk* : *-ṣ* at a later stage. After all, *|pas-| could not have been interpreted as the expected palatalized stem variant of *|pask-|. Integrity of the alternation between non-palatal *-sk* and palatal *-ṣ* would understandably have been more important when it was root-final than when it was in the suffixal *-sk-*. Compare the inflection of *ayk-* 'know' in the same present class [2] as *pask-*, with |ayś(ə)-| next to |ayke-| showing a clear alternation between palatal and non-palatal final consonant. The very realistic possibility of analogical change means that we do not need to assume either a difference in accentuation between forms like **paskʸátar* next to **ákʸətar*, nor an earlier syncope of /ə/ in the latter but not in the former.

Krause's approach is surely correct, in spite of Winter's objections, and can be supported with evidence from the *sk*-present of monosyllabic roots like *ay-* 'give', *weñ-* 'say'. The prs.act.2sg. *aist* 'you give' clearly shows the same lack of palatalization as seen in the type *yamast*, but it must derive from trisyllabic **ayskʸətə* rather than from quadrisyllabic ***ayəskʸətə*. Malzahn (2010: 448) does assume ***ayəskʸətə* as a valid reconstruction to uphold Winter's analysis, but this cannot work within the same framework due to the accent movement exhibited by prs.act.2sg.-3sg. *aista-ne* /aistə́ne/. We can thus conclude that a schwa in the non-first syllable was lost before the development from **-skʸ-* to PT **-sʸsʸ-*, no matter if it was in the second or the third syllable. Syncope of schwa in general thus applied to non-first syllables.

5.2.6 The accent through the lens of syncope and epenthesis

The accent was already featured in the previous subsections most prominently in relation to syncope. I claimed that, because a schwa in the second or third syllable was lost at some point, those syllables must have been unaccented at the time. This is based

on the idea that the stressed syllable in a word, i.e., the most prominent syllable, will be the least liable to syncope. Only if the stress moves away from such a syllable can it be deleted, as probably happened in the development of PT **yásar* to pre-TA **yäśár* and TA *ysār* 'blood' or more clearly in the plural TB *ysāra* /ysára/ from **yəsara*. Thus, for syncope to work as attested, the accent should have been on the first syllable of the word at the time, irrespective of the number of following syllables, or on the last, because it was either the second syllable in trisyllabic words or the third syllable in quadrisyllabic words that was lost. Final accent, however, is generally disallowed in Tocharian B, so that it is not an immediately obvious option for our reconstruction. The retention of the first-syllable vowel in *yasar* 'blood' and words like it would then furthermore be surprising; i.e., if we should assume a starting point **yəsár*, why not syncope to PT **ysár* and TB ***ysār*? A reconstruction with initial accent is thus to be preferred.

General initial accent is contrary to the accent system as it is attested in Tocharian B, however, so that the question is how and at what point the system changed. That the accentual system changed in some way after syncope seems likely, however, as already pointed out by Marggraf (1970: 22) based on the paradigm of the thematic present. An absolute dating of the syncope is not possible, but we can be sure that it happened after palatalization, and most likely before epenthesis in clusters of the type *Cst* (see 5.2.4). We also see from examples like TB *ṣkaste* /ṣkə́ste/ from **s(u̯)eksto* 'sixth (6^{th})' that the new, epenthetic vowel actually ended up bearing the accent in Tocharian B. Since it could not have borne the accent before it existed, an accent shift is implied.

But what about the other types of epenthesis? As it turns out, also the epenthetic vowels in the clusters *-CCr*/*n-* and complex *-CCs-* were accented in Tocharian B; e.g., TB *astare* /astə́re/ 'pure', *otkasa* /otkə́sa/ 'separate, decide (prt.3sg.)'. This situation can most straightforwardly be accounted for by assuming that an accent shift occurred in Tocharian B from the first to the second syllable, unless the second syllable was also the final syllable. Such an accent shift provides us with the general pattern as it is attested in Tocharian B, outside of the exceptional classes to be further discussed below. If we could establish whether epenthesis in *-CCR-* was shared between Tocharian A and B, we would also know whether the accent shift was originally a shared Proto-Tocharian development. Unfortunately, as discussed in 5.5, Tocharian A does not provide the necessary answers for a definite conclusion.

The only word I am aware of that shows divergent developments in Tocharian A and B connected with epenthesis or lack thereof is TB *āñme*, TA *āñcäm* 'soul; self'. The Tocharian B form *āñme* /áñme/ cannot regularly have developed from PT ***añcəme* with epenthesis in the cluster **-ñcm-* and accentuation as TB ***añcame* /añcə́me/. Tocharian B lost the **-c-* between the two nasals, which would only have been possible if there was no intervening vowel, and Tocharian A retains the cluster, apparently due to resolution of the word-final cluster after apocope. The development of PT **añcme* to TB *āñme* is the

only example that I am aware of that implies that we should date the epenthesis in *-CCR-* after Proto-Tocharian, and as specific to Tocharian B. However, since there are no parallels to this particular type of cluster, it is unknown if it would have behaved like other clusters of the types **CCr* and **CCn*.

The placement of Proto-Tocharian accent therefore remains rather ambiguous on the basis of Tocharian evidence alone: either it was still on the first syllable, as implied for an early stage by the syncope of second- and third-syllable schwa discussed above, or it had already shifted to the second syllable as in Tocharian B. At least a relative chronology can be established as follows:

1) epenthesis in clusters *Cst*;
2) syncope of unaccented /ə/ in open syllables (second and third syllable);
3) epenthesis of /ə/ in several complicated consonant clusters of the type *CCR* and *CCs* where the *CC* could not form a coda;
4) shift of the accent from the first to the second syllable in trisyllabic (or longer) words.

As far as I can see, there is at least one reason to assume accentuation of the type found in Tocharian B for the earliest stages of Tocharian A, and that is the accentuation of loanwords from Old Steppe Iranian (on which see 5.4.6). Another, more indirect reason is the number of analogical changes relating to the accent that took place in Tocharian B, discussed in 5.4.

5.2.7 Intermediary summary

So far, we have discussed a number of changes involving epenthesis and syncope that happened in Tocharian at different points in time, pulling together information from various publications on the matter. At least the epenthesis of a schwa in clusters of the type **Cst* can be considered pre-Proto-Tocharian, so that, e.g., PIE **s(u̯)éksto* '6th' became first PT **sʸákəste* (cf. Ringe 1996). Afterwards, there was a sound law by which original schwa could be deleted in an open second or third syllable. Based on the deletion of a vowel in these positions, they should be reconstructed unstressed at the time: e.g., **ákʸətər* > PT **ákʸtər* (Marggraf 1970: 22). Perhaps during, or perhaps after the Proto-Tocharian period, at least in pre-TB, further epenthesis occurred in clusters of the type *CCR* (Kim 2007a, Pronk 2009). I have argued that the epenthesis in *CR*-clusters that has previously also been assumed after a heavy vowel in the preceding syllable (ibid.) is not sufficiently supported by the data. Nasal presents that appear to show such a change are, in my view, likely analogically remade. After the different types of epenthesis had occurred, the accent moved from the first to the second syllable, which yielded the general Tocharian B accent pattern. In the following two sections 5.3 and 5.4, the

Tocharian B categories that show aberrant or otherwise interesting and potentially informative accentuation will be treated in more detail.

5.3 The accent in finite verbs

In this subsection I will go over the different verbal categories that any coherent account of the Tocharian B accent needs to cover, and evaluate the explanations given for their aberrant accentuation based on how well they correspond to the sound changes for epenthesis and syncope as discussed in the previous subsection. First, 5.3.1 provides an introduction to the accent in the verb to frame the problematic categories to be discussed in more detail in the following subsections.

5.3.1 Mobile and fixed accent in the Tocharian B verb

In accordance with the general accentuation rules of Tocharian B, many verbs display accent movement when additional syllables are added at the end through suffixation. This can happen within a single paradigm, between the active and the middle paradigms, or when pronoun suffixes are added. Table 5.7 illustrates accent movement with the present active of *ak-* 'lead' and *ay-* 'give', and with the preterite active of *taka-* 'be'.

Table 5.7: Three verbal paradigms with accent movement in the surface forms.

	ak- 'lead' prs.[2] act.		*ay-* 'give' prs.[9]		*taka-* 'be' prt.[1]	
	base	suffixed	base	suffixed	base	suffixed
1sg.	*ākau**	*akau-ne**	*aiskau*	*aiskau-ne**	*takāwa*	*takāwa-ne**
2sg	*āst*	*aśta-ne**	*aist**	*aista-ne*	*takāsta*	*takāsta-ne**
3sg.	*āśäṃ*	*aśan-ne**	*aiṣṣäṃ*	*aiṣṣan-ne**	*tāka*	*takā-ne*
1pl.	*akem**	*akem-ne*	*aiskem*	*aiskem-ne**	*takām**	*takām-ne**
2pl.	*āścer*	?	*aiścer*	?	*takās*	*takās-ne**
3pl.	*ākeṃ*	*aken-ne*	*aiskeṃ*	*aisken-ne**	*takāre*	*takāre-ne**

The number of forms that show accent movement is different depending on the category. In the present active, it can be seen everywhere except in the first-person plural, which always has its accent on the second syllable. It does not look like a trisyllabic form, but the ending used to be **-mə* with a final schwa that was eventually lost, so that *akem** /akém/ derives from trisyllabic **akémə* and *aiskem* /ayském/ from **ayskémə*. In the preterite [1] there is only a single form that shows accent movement, namely the third person singular. In all other cases the accent is already on the second syllable because the endings added an additional syllable. The 1pl. *takām** /takám/ and 2pl. *takās* /takás/ derive from earlier trisyllabic **takámə* and **takásə*, which lost their final schwa.

There are a few verbal classes that have an unexpectedly stable first-syllable accent in (part of) their paradigm. Thematic presents show accentual movement to a degree, but not in all forms. In Table 5.8 they are represented by middle of the simple thematic present [class 2] *ák-*. Many subjunctives of classes [1] and [5] have a stable initial accent as well, as shown with the other paradigms in Table 5.8.

Table 5.8: The accentuation of the thematic present middle and initially-accented subjunctives [1] and [5].

	ak- 'lead' prs.[2] mid.		*prek-* 'ask' sbj.[1]		*taka-* 'be' sbj.[5]	
	base	suffixed	base	suffixed	base	suffixed
1sg.	*akemar**	*akemar-ne**	*preku*	*préku-ne**	*tākau*	*tākau-ne**
2sg.	*āśtar**	*āśtar-ne**	*prekt**	?	*tākat*	*tākat-ne**
3sg.	*āśtär*	*āśtär-ne**	*prekäṃ**	*prekäṃ-ne*	*tākaṃ*	*tākaṃ-ne**
1pl.	*akemtär**	*akemtär-ne**	*parkäm**	*parkäm-ne**	*tākam*	*tākam-ne**
2pl.	? *āśtär**	?	*parkcer*	?	*tākacer*	*tākacer-ne*
3pl.	*akentär**	*akentär-ne*	*parkäṃ*	*parkän-ne**	*tākaṃ*	*tākaṃ-ne*

The present [2] middle shows accent movement within the paradigm (*akemar* /akémar/ vs. *āśtär* /áśtər/), but not when pronoun suffixes are added (*āśtär* /áśtər/ vs. *āśtär-ne** /áśtərne/). The same is seen in the present [8] middle, and this will be treated in 5.3.2. Many subjunctives [1] and [5] have a fixed initial accent, which does not move at all. Even (originally) trisyllabic forms have the accent on the first syllable, so that we have 2sg. *tākat* /tákat/ rather than ***takát* from **takatə*, 1pl. *tākam* /tákam/ rather than ***takám* from **takamə*, and 2pl. *tākacer* /tákacer/ rather than ***takácer*. See 5.3.4 for more details.

The preterites of class [3] show the normal accentuation in most forms of the active, except for the third person singular, which has a consistent initial accent. This initial accent is also found in the entire middle, and illustrated in Table 5.9. The active third person singular and the middle of the preterite [3] all share a suffix *-sa-*, which is absent in the regularly accented forms. The accentuation of the *s*-preterite [3] is discussed in 5.3.3. Finally, causatives with a present-subjunctive of class [9] and a preterite of class [2] are accented on the first syllable as well, even though they have many forms of three syllables where the accent would normally be on the second syllable; see Table 5.9, and further in 5.3.5.

Table 5.9: The accentuation of the preterite [3] and the causative present-subjunctive [9] and preterite [2]. The non-3sg. forms of the preterite [3] do not show special accentuation.

	prek- 'ask' prt.[3]		*wətk-* 'command' (causative)	
	active (3sg. + suffix)	middle	prs-sbj.[9]	prt.[2] (3sg. + suffix)
1sg.	*prekuwa*	*parksamai**	*watkäskau*	*yātkawa*
	/prekə́wa/	/pə́rksamay/	/wə́tkəskaw/	/yátkawa/
2sg	*prekasta*	*parksatai**	*watkäst*	*yātkasta*
	/prekə́sta/	/pə́rksatay/	/wə́tkəst/	/yátkasta/
3sg.	*preksa, preksa-ne*	*parksate*	*watkäṣṣäṃ*	*yātka, yātka-ne**
	/préksa, préksane/	/pə́rksate/	/wə́tkəṣṣən/	/yátka, yátkane/
1pl.	*prekam**	*parksamte**	*watkäskem**	*yātkam*
2pl.	*prekas*	*parksat**	*watkäścer-*	*yātkas*
3pl.	*prekar*	*parksante*	*watkäskeṃ**	*yātkare*

The discussion around the accentuation of the verbs is centred on the types shown in these last two tables above. In the order that they will be treated in the following subsections, the forms that deviate from the usual Tocharian B accent rules are:

- The middle of the simple thematic present [class 2] and the *s*-present [class 8]; see 5.3.2.
- The preterite [3] forms with the suffix *-sa-*; see 5.3.3.
- The subjunctives [1] and [5] with fixed initial accent; see 5.3.4.
- The causative present-subjunctive [9] and preterite [2]; see 5.3.5.

Scholars have approached the accentuation of the verbal categories illustrated above in various ways. The remainder of this subsection provides a short overview of the different types of explanations that have been adduced to account for the fixed initial accent, which will play a role in the discussions of the next three subsections on the verb.

It has been proposed that certain aspects of Tocharian B accentuation directly continue Proto-Indo-European accentuation. This features prominently in Ringe's explanation of epenthesis and the accent in nouns (Ringe 1987), and it is also integral to Eyþórsson's explanation for the initial accent found in subjunctive [5] (Eyþórsson 1993). In both cases the lack of other, corroborating reflexes of the Proto-Indo-European accent makes its applicability questionable (cf. Malzahn 2010: 301; Jasanoff 2015: 87, 89 incl. fn. 7).

Winter (1993) instead departs from a general underlying second-syllable accentuation and proposes an analysis for the initially-accented present [2], present [8] and preterite [3] forms as originally, and still underlyingly, containing an accented /ə́/ in the second syllable that was lost, leaving the accent stranded on the first syllable. This

explanation is followed by Malzahn (2010: 191–195), but it is rejected by Peyrot (2013: 509), as it is "phonologically implausible, synchronically as well as diachronically" and furthermore incompatible with Marggraf's diachronic interpretations of the accent (Marggraf 1970: 21).

Another way to get the accent on the initial syllable is to interpret it as originally being a non-initial syllable. This is possible in originally reduplicated categories where the reduplication syllable was lost. For example, a form like prs.-sbj.act.1sg. *watkäskau* /wətkəskau/ 'I command' could be derived from **wəwətkəskau*, with regular second-syllable accentuation, by a syncope of the *ə* of the reduplication syllable and initial degemination. Schematically, earlier **CəCV́CVCV* yields **CV́CVCV* with synchronically aberrant initial accent. Winter applies this de-reduplication to subjunctives [1] and [5] and to the causative present-subjunctive [9] and preterite [2] (Winter 1994b). Malzahn basically follows this explanation, but with analogical dereduplication in those subjunctives that do not have initial acccent (Malzahn 2010: 310–316). Peyrot rejects the possibility of earlier reduplication in the subjunctives [1] and [5] (Peyrot 2013: 401ff.), but accepts it as a reason for the initial accent in the causative present-subjunctive [9] and especially the accompanying preterite [2] (Peyrot 2013: 487–491). Jasanoff does not consider dereduplication to be the cause of the initial accent in any category (Jasanoff 2015).

Jasanoff (2015) has instead developed a theory whereby an accent shift took place from the first syllable to the second syllable, but only if the second syllable did not contain a schwa following a full vowel in the first syllable. He calls this the "*yāmu*-rule", based on a reconstruction of the preterite participle *yāmu* of *yam-* 'do' as **yáməwə*. In words with this type of structure, Jasanoff claims, the progressive accent shift that led to the second-syllable accent of Tocharian B was inhibited because the second-syllable *ə* could not take the accent from preceding full vowel.[59] Jasanoff applies this "*yāmu*-rule" in various ways to explain the accentuation of the subjunctives [1] and [5], and of the causative present-subjunctive [9] and preterite [2]. Jasanoff's "*yāmu*-rule" is incompatible with existence of accented epenthetic vowels discussed in 5.2, and he can only account for them by assigning a special status to the epenthetic schwa (Jasanoff 2015: 95), which is otherwise unmotivated.

As will become clear, Jasanoff's "*yāmu*-rule" of limited accent shift in any case does not have any clear advantage over a general accent shift, including shift from a full vowel

[59] Malzahn (2010: 6) had pointed out set of words that appear to be accentuated according to this principle, which Jasanoff refers to; Malzahn called this phenomenon the "*pātär*-rule" instead, based on the interpretation of the example obl.sg. *pātär* as **pátərə*, with accent on the first syllable of originally three. Notably, however, the derived adjective *patarye* /patárye/ 'paternal' is not stressed on the initial syllable, calling into question the general applicability of the "*pātär*-rule" even in forms of the word *pācar*.

to a schwa, and it fails to account for a number of forms that do clearly show such a change. Precisely a general accent shift from the first to the second (but non-final) syllable is key to Peyrot's (2013: 510–515) explanation of the accentuation of the subjunctives [1] and [5]. Peyrot's account is more explicitly reliant on secondary regularization through analogy than, for example, Winter's scenarios with deleted /ə́/ and reduplication in the subjunctive, but it has distinct advantages in being neither circular nor contradicted by forms that fundamentally should not be able to exist within its phonological framework. It is in accordance with Marggraf's diachronic interpretation of the accent (Marggraf 1970: 21) and also conforms to the epenthesis and syncope developments discussed in the previous section (5.2). In the following subsections, I will illustrate in more detail how the aberrant verbal categories can be understood with the general accent shift required by the syncope of second-syllable vowels and the accent movement to epenthetic vowels.

5.3.2 The accent in the thematic present [2] and *s*-present [8]

In disyllabic middle forms of the thematic present [class 2], the *s*-present [class 8], the accent never moves to the second syllable, even when pronoun suffixes are added. Examples include TB prs.2sg.mid.-1sg. *taṣtar-ñ* /tə́ṣtarñ/ of *təs-* 'put' [class 2], TB prs.3sg.mid.-pl. *śauśtär-me* /śáwśtərme/ of *śewk-* 'call, invite' [class 2], and prs.3sg.mid.-2sg. *wākṣtär-ś* /wákṣtərś/[60] of *wak-* 'differ' [class 8]. These forms thus seem to have a fixed initial accent.

Winter (1993) explained these forms by positing an underlying /ə́/ which was syncopated before dentals, with an accent shift to the left; e.g., **tasʸə́tar-nʸə* > **tásʸtar-nʸə* = *taṣtar-ñ*. After this development, Winter claims that no further accent movement was possible, so that the forms of this type never came to adhere to the general Tocharian B accentuation on the second syllable. The same change is applied by Winter to all forms of this type, also non-suffixed ones like prs.3sg.mid. *āśtär* of *ak-* 'lead' [class 2] and prs.3sg.mid. *nakṣtär* of *nək-* 'destroy; mid. be destroyed' [class 8]. I already touched upon this briefly in subsection 5.2.5 on syncope, and rather interpreted the disappearance of the **ə* in these types of words as evidence that they were unaccented when syncope took place, as per Marggraf (1970: 21).

A remaining issue is thus the fixation of the accent on the first syllable, which Winter attempts to explain, but Marggraf does not. With an accent shift after syncope, one might expect forms like ***täṣtār-ñ* /təṣtárñ/ and ***śauśtar-me* /śawśtárme/ instead. However, the middle endings never seem to be accented at all, in any stem type, so that the accent of middle verbs falls on either the root or the suffix, and not on the ending; cf. the types present [3] *tsmetär* /tˢmétər/, present [6] *kärsnātär* /kərsnátər/, present [9] *eṅkastär*

[60] *-ś* here is a variant of the 2sg. pronoun suffix *-c*.

/eṅkástər/, none of which could ever have the accent on the ending. The lack of movement in *taṣtar-ñ* and similar forms can thus be interpreted as an analogical morphophonological rule disallowing accent movement to middle endings.

The sole exception is in the irregular form *star-* 'be' used with pronoun suffixes. However, this consists of only a single syllable, and thus has an exceptional status. It derives quite regularly from, e.g., earlier **skʸətər-ne* with the 3sg. pronoun suffix. With accent movement from the first to the second syllable, this developed from **skʸátər-ne* to **skʸətár-ne*, whence **s(k)tár-ne* developed due to syncope of the unstressed open syllable. No analogical placement on the root syllable was possible here because the root syllable was lost entirely.

The ban on accented endings must be applied only to the middle endings, as there are examples of accented endings of the second person singular active. There, prs.act.2sg.-3sg. *aista-ne* and sbj.act.2sg.-3sg. *aita-ne* of *ay-* 'give', prs.act.2sg.-1sg. *nesta-ñ* of *nes-* 'be' and perhaps prs.act.2sg.-1sg. *prekṣta-ñ* of *prək-* 'ask' are found (Malzahn 2010: 30–31 incl. fn. 6). Malzahn ascribes these forms to an informal style (Malzahn 2010: 31), but there do not seem to be any examples without this accented second-person singular ending before a pronoun suffix outside of verse.[61] There is thus no particular reason to assume that they are secondary creations instead of normal prose forms; and they are fully regular with Marggraf's accent shift from the first to the second syllable.

On the other hand, Winter's hypothesis involving shift away from a */ə/ before an obstruent does not accord with the existence of *aista-ne* and *prekṣta-ñ*, since these forms should be derived from **ayskʸətə-ne* and **preksʸətə-nʸə* respectively. Since an application of regular syncope of earlier/underlying second-syllable schwa in combination with accent fixation on the first syllable cannot account an example like *aista-ne*, I think that it cannot be accepted as either a regular development or as a regular synchronic morphophonological analysis.

These forms like *aista-ne* furthermore cannot be understood in terms of Jasanoff's "*yāmu*-rule", whereby no shift should occur from a full vowel to a schwa, although it could theoretically account for *wākṣtär-ś* and *śauśtär-me* from **wákṣətər* and **śéwśətər*. Jasanoff's "*yāmu*-rule" additionally falls short as an explanation for forms like *taṣtar-ñ* /təṣtarñ/, with a full vowel in the ending. In a similar vein to *aista-ne* but a different category, the prt.act.3sg.-2sg. *yaśa-c* /yaśəc/ of *yok-* 'drink' also shows accent shift from *a* to *ə*, and can hardly be explained away, since ***yāś-c* next to unsuffixed *yāś** would have been phonologically entirely unproblematic.

[61] The examples adduced by Malzahn all occur in verse: IOL Toch 285 a3 *w(e)nt-meścä* 'you will say to us/them', THT 273 b3 *yust-me* 'you turn towards us(/them)', *west-meśca* 'you say to us(/them)'. These could thus be syncopated forms of **wenta-me-ścä*, **yusta-me*, **westa-me-śca*.

I thus conclude that Marggraf's general accent shift after syncope of unstressed /ə/ in combination with a morphophonological ban on accented middle endings provides the best explanation for the accentual behaviour of forms of the presents [2] and [8] like *taṣtar-ñ* and like *wākṣtär-ś*.

5.3.3 The accent in the *s*-preterite [3]

The preterite of class [3] is known as the sigmatic or *s*-preterite due to its characteristic suffix *-sa-*. This suffix is not present in all forms, however, only in the third person singular active and in the middle. The remaining active forms do not contain *-sa-* and are therefore "asigmatic"; see Table 5.10. In general, on the *s*-preterite, see Krause & Thomas (1960: 247–251) and Malzahn (2010: 190–214).

Table 5.10: An example paradigm of the preterite [3].

	prt.[3] active	prt.[3] middle
1sg.	*prekuwa* /prekə́wa/[(a)]	*parksamai** /pə́rksamay/
2sg	*prekasta** /prekə́sta/	*parksatai** /pə́rksatay/
3sg.	*preksa* /préksa/, 3sg.-3sg. *preksa-ne* /préksane/	*parksate** /pə́rksate/
1pl.	*prekam** /prekə́m/	*parksamte** /pə́rksamte/
2pl.	*prekas** /prekə́s/[(b)]	*parksat** /pə́rksat/
3pl.	*prekar* /prekə́r/	*parksante* /pə́rksante/

(a) Two types of 1sg. forms of the prt.[3] are attested, e.g., *nekwa* beside *prekuwa*, of which the type in *-uwa* is older (Schmidt 1985: 433). Malzahn reports that *-uwa* is found mostly in late, informal style documents, but also notes that this does not preclude it from being an archaism (Malzahn 2010: 40, 193). If derived from quasi-PIE *-*u-h₂e* (Peyrot 2013: 418, 505), a disyllabic sequence *-*əwa* is expected. With the exception of prs.act.1sg. *tsaukwa* from *tˢəwk-* 'suckle' in the late text THT 415 a3, all other attestations of prt.act.3sg. *-wa* that I could trace are found in verse, where the lack of the *-u-*could result from verse syncope (see 5.1.2): *nekwa* in THT 246 a5, *pelykwa* in THT 46 a2, *yātwa* in THT 365 b6, *yonwa* in THT 365 b5 and PK AS 6E b2, *lyautwa* in PK AS 13E a2 and a6. At least *prekuwa* in THT 1115 a5 and *pleṅkuwa* in HWB 74(4) a11, Kucha 191 a4 and PK DA M 507.39 and .43 a8 are found in prose.

(b) There is only one attestation of 2pl. forms of the prt.[3], namely *maitas* /maytə́s/ from *məyt-* 'set out (itr.)', since *lautso* /láwtso/ to *ləwt-* 'expel' is to be interpreted as an imperative instead (Peyrot 2013: 511 fn. 94). On the basis of *maitas*, *prekas** is the expected form.

While the asigmatic forms are generally accented according to the usual Tocharian B accent rules (Peyrot 2013: 100), the sigmatic forms of most verbs have a consistent first-syllable accent. Forms that need an explanation are those of the type *preksa-ne* /préksane/ rather than ***preksā-ne* /preksáne/, and the entire middle with *parksamai*

/pə́rksamay/ rather than *pärksāmai* /pərksámay/, etc. Winter (1993: 199–201) applied the same rule for the deletion of second syllable /ə́/ here as for the thematic presents discussed in the previous subsection, interpreting the sigmatic suffix as *-ə́sa-* rather than *-sa*. Thus, *preksa-ne* would derive from **prekə́sa-ne*, and *parksamai* from **prəkə́samai*. Winter is followed in this by Malzahn (2010: 191–195). Jasanoff departs from a similar **prékəsa-ne* with an unaccented schwa instead which would have blocked the movement of the accent according to his "*yāmu*-rule" (Jasanoff 2015: 95).

The theory of the disappearing /ə́/ already had difficulties accounting for the variety of forms in the thematic presents [class 2] and the *s*-presents [class 8] in the previous subsection, and in the sigmatic preterite there are problems as well. For example, there is a small group of verbs that do have their accent on the sigmatic suffix *-sa-*. All examples are middle forms.

- *tässāte* /təssáte/, prt.mid.3sg. of *təs-* 'put' (THT 109 a5, THT 626 a2)
- *tässānte* /təssánte/, prt.mid.3pl. of *təs-* 'put' (PK NS 39 a8, THT 349 b5)
- *wässāte* /wəssáte/, prt.mid.3sg. of *wəs-* 'wear' (THT 107 b4)
- *kälnsāte* /kəlnsáte/, prt.mid.3sg. of *kəln-* 'resound' (IOL Toch 19 b3)

Winter knew only of *tässāte* and *wässāte*, which he explained with a special, earlier deletion of /ə́/ in the sequence **-səs-*, this time with a rightward accent shift instead of the leftward shift in all the other verbs. This solution is *ad hoc*, and on account of their isolation within the system, these forms should rather be interpreted as archaisms (Peyrot 2013: 513). Furthermore, a special deletion of /ə́/ between two **s* cannot account for the suffixed active form of *təs-* 'put' *tessa-ne* /téssane/ (in PK DA M 507.37 and 36 a54–55). This form has initial accent, rather than ***tessā-ne* /tessáne/ as would be predicted by Winter's rules, and thus shows that the attested situation with these verbs is messier than can be captured by Winter's phonological rules. The forms *tässāte* and *wässāte* are regular within the framework of progressive accent shift, since they were never ***təsásate* and ***wəsásate*; *tessa-ne* is like the standard prt.act.3sg. type *preksa-ne* and should receive the same explanation.

Another, more basic issue with Winter's underlying /ə́/ in the sigmatic preterite is that this vowel is ahistorical (cf. also 5.2.3 above). Unlike the thematic suffixes, which contained a palatalizing **ə* in the relative forms that derived from a real PIE vowel **e*, the schwa of the theoretical sigmatic suffix *-əsa* has no clear origin: this suffix originally started with PIE **-s-*. It would therefore have to be inserted at some point by epenthesis. In a few verbs with particularly complex consonant clusters, there is indeed a /ə́/ before the sigmatic suffix, which are interpreted as proof that the forms without /ə́/ are the result of syncope (Winter 1993: 201):

- *mlautkasa* /mlawtkə́sa/, prt.act.3sg. of *mləwtk-* 'take off' (PK NS 44 b4)
- *otkasa-me* /otkə́sa/, prt.act.3sg.-pl. of *wətk-* 'separate' (THT 366 b5)
- *yonmasa* /yonmə́sa/, prt.act.3sg. of *yənm-* 'get' (PK AS 1B b2, THT 29 a3)
- *sätkasamai* /sətksə́samay/, prt.mid.1sg. of *sətk-* 'spread (tr.)' (IOL Toch 4 b5)

However, since the /ə́/ is never seen outside of forms of this type, where it can easily be understood as secondary, its earlier presence in verbs with simpler root structures remains conjectural (Peyrot 2013: 509). The basis for its reconstruction by Winter (1993: 199–201; also Malzahn 2010: 192–193) in **prekə́sa*, **prəkə́samay*, etc., is the fixed initial accent of these forms in TB *preksa*, *parksamai*, which it also purports to explain.

If we try to understand the phonological developments involved, it would furthermore be strange that one suffix **-sV* should develop an epenthetic /ə́/ while another suffix **-sV* did not. In the other verbal category with a suffix of the structure **-sV*, the *s*-present [class 8], there is no fixed initial accent (cf. *naksentär* /naksə́ntər/ 'they blame' rather than ***näksentär* /nə́ksentər/, *tsämsen-ne* /tˢəmsə́nne/ 'they increase' rather than ***tsamsen-ne* /tˢə́msen-ne/, etc.). There are no *s*-presents with a final cluster like in *otkasa-me*, but the absence of the supposed effects of an earlier /ə́/ in this class always fixing the accent on the root, as compared to the *s*-preterite [3], speaks against Winter's solution as the result of a sound change. The various issues in the preterite [3] add to the problems that Winter's deletion of /ə́/ had in the presents [2] and [8] discussed in the previous subsection.

A prehistoric accent shift from the first to the second syllable accounts elegantly for both the type of *tässāte* and the type of *otkasa*, since they show the accent precisely on the second syllable out of three. Other forms of the paradigm, including *preksa*, *preksa-ne*, *parksante*, and middle-only *eṅksate* with their stable initial accent require a different explanation. In the case of *preksa* and *preksa-ne*, it is easiest to assume that the accent of disyllabic *preksa* was generalized (Peyrot 2013: 512). The initial accent of the middle type *parksante* /pə́rksate/ is then due to influence from the active (ibid.). Middle-only preterites [3] like *eṅksate* were subsequently regularized with initial accent as well. The few verbs like *tässāte* that do show second-syllable accent in the middle evidently managed to escape the effects of this analogy. Of course, this interpretation requires more analogy, i.e., irregular change, than Winter's, but we have seen that the purely phonological account falls short.

One might ask why initial accent was not generalized in other categories like the active of the thematic present [class 2], where initially accented disyllabic forms like 1sg. *ākau*, 2sg. *āśt**, 3sg. *āśäṃ* and 3pl. *akeṃ* routinely move their accent to the second syllable when pronoun suffixes are added. First, these forms are not as isolated within their paradigm as *preksa*, which is the only sigmatic form in the active. This isolation may have increased the relative strength of the base *preksa*. Second, it should be borne in mind

that, unlike sound change, analogical change does not apply regularly, so that it may have affected different categories in different ways. Its effects may even have been different even for verbs in the same category.

Now we briefly turn to the accentuation of the asigmatic forms in the paradigm. At first sight, it looks like there is nothing particularly strange going on with the accent there, but if we consider the regular sound developments, we can see that more analogy has been at work. To see this, it will be illustrative to consider the effects of epenthesis on the shape of the verb forms in this category of the sigmatic preterite. It is likely that different *s*-preterites developed in different ways according to the rules of epenthesis, depending on their structure. For example, it is not expected that the cluster *-*ks*- should be broken up (cf. the prt.act.3pl. *preksa* /préksa/ rather than **prekasa* /prekə́sa/, *laks* /lə́ks/ 'fish', etc.), so that an earlier 2pl. **prek-sə* should have regularly yielded TB **preks*. It is not clear for every root-final consonant cluster how epenthesis would have operated, but Table 5.11 illustrates some possibilities with the root *awn*- act. 'hit' ending in a nasal, *prek*- 'ask' ending in a single stop, *ṣərp*- 'indicate' ending in a cluster of a resonant and a stop, and *wotk*- 'separate' ending in a cluster of two stops.

Table 5.11: The expected phonological developments in the active preterite [3] paradigms of *awn*- act. 'hit', *prək*- 'ask', *sərp*- 'indicate' and *wotk*- 'separate'.

awn- act. 'hit' prt.		epenthesis	shift	apocope	attested type
1sg.	*áwn-əwa*	*áwn-əwa*	*awn-áwa*	*awnə́wa*	= *aunuwa**
2sg	*áwn-sta*	*áwn-ə-sta*	*awn-á-sta*	*awnásta*	= *aunasta*
3sg.	*áwn-sa*	*áwn-t-sa*	*áwn-t-sa*	*áwntsa*	= *auntsa*
1pl.	*áwn-mə*	*áwn-mə*	*áwn-mə*	*áwnm*	≠ *aunam**
2pl.	*áwn-sə*	*áwn-t-sə*	*áwn-t-sə*	*áwnts*	≠ *aunas**
3pl.	*áwn-rə*	? *áwn-rə*	*áwn-rə*	*áwnər*	≠ *aunar*
prək- 'ask' prt.		epenthesis	shift	apocope	attested type
1sg.	*prék-əwa*	*prék-əwa*	*prek-áwa*	*prekə́wa*	= *prekuwa*
2sg	*prék-sta*	*prék-ə-sta*	*prek-á-sta*	*prekə́sta*	= *prekasta**
3sg.	*prék-sa*	*prék-sa*	*prék-sa*	*préksa*	= *preksa*
1pl.	*prék-mə*	? *prék-ə-mə*	*prek-á-mə*	*prekə́m*	= *prekam**
2pl.	*prék-sə*	*prék-sə*	*prék-sə*	*préks*	≠ *prekas**
3pl.	*prek-rə*	*prék-rə*	*prék-rə*	*prékər*	≠ *prekar*
ṣərp- 'indicate' prt.		epenthesis	shift	apocope	attested type
1sg.	*ṣérp-əwa*	*ṣérp-əwa*	*ṣerp-áwa*	*ṣerpə́wa*	= *ṣerpuwa**
2sg	*ṣérp-sta*	*ṣérp-ə-sta*	*ṣerp-á-sta*	*ṣerpásta*	= *ṣerpasta**
3sg.	*ṣérp-sa*	*ṣérp-sa*	*ṣérp-sa*	*ṣérpsa*	= *ṣerpsa*

1pl.	*ṣérp-mə*	*ṣérp-ə-mə*	*ṣerp-á-mə*	*ṣerpám*	= *ṣerpam**
2pl.	*ṣérp-sə*	*ṣérp-sə*	*ṣérp-sə*	*ṣerps*	≠ *ṣerpas**
3pl.	*ṣérp-rə*	*ṣérp-ə-rə*	*ṣerp-á-rə*	*ṣerpár*	= *ṣerpar**
wotk- 'separate' prt.		epenthesis	shift	apocope	attested type
1sg.	*ótk-əwa*	*ótk-əwa*	*otk-áwa*	*otkáwa*	= *otkuwa**
2sg	*ótk-sta*	*ótk-ə-sta*	*otk-á-sta*	*otkásta*	= *otkasta**
3sg.	*ótk-sa*	*ótk-ə-sa*	*otk-á-sa*	*otkásа*	= *otkasa*
1pl.	*ótk-mə*	*ótk-ə-mə*	*otk-á-mə*	*otkám*	= *otkam**
2pl.	*ótk-sə*	*ótk-ə-sə*	*otk-á-sə*	*otkás*	= *otkas**
3pl.	*ótk-rə*	*ótk-ə-rə*	*otk-á-rə*	*otkár*	= *otkar**

Since the regular development of epenthetic vowels would have been different depending on the root, the accentuation of resulting pre-TB forms must also have been different originally. The paradigm of *wotk-* would probably have generated all the expected forms by sound law, but *awn-* likely only obtained the singular forms by regular sound developments. The only form that would have had an epenthetic vowel with basically every type of root is the second person singular, since the suffix-initial cluster of the ending *-sta* itself would always develop with epenthesis in the cluster *-Cst-* (see 5.2.4). The accentual type of *wotk-*, with a second-syllable accented schwa seems to have been regularized in the asigmatic forms of other preterite [3] verbs as well.

Analogical pressures would have come from many sides, partly from the first and second person singular, partly from (relatively rarer) paradigms of the type exhibited by *wotk-*, and perhaps partly as the result of the accentuation type exhibited by the preterite [1]. An extension of root shape |prekə́-| found regularly at least in the 1sg. /prekə́wa/ 2sg. /prekə́sta/*, and perhaps the 1pl. /prekə́m/* in certain verbs, to the other forms of the paradigm could have been facilitated by a comparison with the preterite [1] root shape |taká-| in the way illustrated in Table 5.12.

Table 5.12: Morphological structure of the preterite [1] and preterite [3] forms, illustrating the room for analogical influence from the former on the latter.

	prt.[3] act.	analysis	result	prt.[1] act.	analysis
1sg.	**prekə́wa*	|prekə́-| is as |taká-|	*prekə́wa*	*takáwa*	|taká-|
2sg	**prekə́sta*	|prekə́-| is as |taká-|	*prekə́sta*	*takásta*	|taká-|
1pl.	**prekə́m*	|prekə́-| is as |taká-|	*prekə́m*	*takám*	|taká-|
2pl.	**préks*	|prék-| >> |prekə́-|	*prekə́s*	*takás*	|taká-|
3pl.	**prékər*	|prékə-| >> |prekə́-|	*prekə́r*	*takáre*	|taká-|

Jasanoff, with a limited accent shift according to his "*yāmu*-rule", has a rather different account of the accentuation of the preterite [3]. For the sigmatic forms like *préksa*, Jasanoff departs from **prékəsa*, where the "*yāmu*-rule" would prevent accent shift (Jasanoff 2015: 95). This is similar to Winter's **prekásа*, but with a different mechanism for obtaining the attested accentuation. The problems associated with the *ə* in **prekəsa*, as discussed above in the context of Winter's scenario, remain.

As for the asigmatic part of the paradigm, forms like 2sg. **prékəsta* and 1pl. **prekəmə* should have remained as such, since the accent could not have shifted from the **e* to the **ə* according to Jasanoff's "*yāmu*-rule". By way of a solution, Jasanoff considers the *ə* in these forms an "accent-attracting Fremdvokal [= Tocharian <ä>, /ə/]", which would have behaved differently from other *ə* (Jasanoff 2015: 95). The distinction between the *ə* that does not attract the accent (as allegedly in the sigmatic forms) and the *ə* that does attract the accent (as in these asigmatic forms) is arbitrary, so that its use as an explanation for the accent is circular. Additionally, the *ə* in forms like *aista-ne* /aystə́ne/ and *yaśa-c* /yaśə́c/ is not an epenthetic schwa but did end up accented, in contradiction with both Jasanoff's "*yāmu*-rule" and his assumed "accent-attracting Fremdvokal".

The accentuation of the sigmatic preterite [class 3] can thus be most adequately explained with a combination of regular accent shift to the second out of three (or more) syllables and an analogical morphophonological regularization of the accentuation of different stem types. To better appreciate the motivation for the analogical changes treated in this subsection, it may be taken into consideration that the preterite [3] paradigm obtained by sound law with regular accent shift could have had at least four different morphological stems when the placement of the accent was no longer phonologically automatic: asigmatic |prék-| in the act.2pl. and the act.3pl., |prekə́-| in the act.1sg, act.2sg. and perhaps act.1pl., next to sigmatic |prék-sa-| for the act.3sg. and |prək-sá-| for the middle. It is not terribly surprising that such complexity was reduced by levelling to just two stem variants: one sigmatic, ablauting |pré/ə́ksa-|, and one asigmatic, |prekə́-|. Both were in opposition to a subjunctive stem |prék(ə)-|, which is treated as part of the next subsection.

5.3.4 The accent in the subjunctives [1] and [5]

The verbs in the subjunctive classes [1] and [5] show a tendency for fixed word-initial accent, regardless of the number of syllables. Not all verbs in these subjunctive classes have a fixed initial accent, however. Table 5.13 illustrates this with two example paradigms of different types of *a*-subjunctives [class 5]: *taka-*, the suppletive subjunctive of the verb *nes-* 'be', with consistent *a*-grade and *ləma-*, the suppletive subjunctive of the verb *səm-* 'sit', with ablaut. The ablauting subjunctives [5] like *ləma-* have *a*-grade in the active singular and *ə*-grade in the active plural and the entire middle, and in derived forms such as the gerundive and infinitive. In general, on the subjunctives [1] and [5], see

Krause & Thomas (1960: 222–224, 226–230), Malzahn 2010: (274–316); Peyrot (2013: 494–560).

Table 5.13: Two example paradigms of the subjunctive [5].

	taka- 'be' sbj.[5]		*ləma-* 'sit' sbj.[5]	
	base	suffixed	base	suffixed
1sg.	*tākau*	*tākau-ne**	*lāmau**	*lāmau-ne**
2sg	*tākat*	*tākat-ne**	*lāmat*	*lāmat-ne**
3sg.	*tākaṃ*	*tākaṃ-ne**	*lāmaṃ*	*lāmaṃ-ne**
1pl.	*tākam*	*tākam-ne**	*lamam*	*lamam-ne**
2pl.	*tākacer*	*tākacer-ne**	*lamacer**	*lamacer-ne**
3pl.	*tākaṃ*	*tākaṃ-ne*	*lamaṃ*	*lamaṃ-ne**

Despite this variation, some generalizations are possible. The remainder of this section treats the subjunctives of class [5] first, and then the subjunctives of class [1], grouping the examples according to a few different observable patterns. The general patterns are mentioned by both Malzahn and Peyrot, but the underlying data is not explicitly provided.

Subjunctives [5] with initial accent

Most verbs that do not show any ablaut in the subjunctive [5] are accented on the first syllable (Malzahn 2010: 283–284). This is true for all verbs with a subjunctive [5] that have a *ə*-grade in the present, as shown in Table 5.14. These are all paired with an *a*-preterite [class 1], with which they are identical in terms of stem structure except for the accentuation; e.g., *pəla-* 'praise' has a preterite [1] stem |palá-| beside its subjunctive [5] stem |pála-|.

Table 5.14: Subjunctives [5] with consistent *a*-grade in the subjunctive, but not in the present, with diagnostic subjunctive forms showing their first-syllable accent.

Root	Meaning	Examples of diagnostic forms	Analysis
tresk-	'chew'	sbj.ger. *trāska*(*lye*) IOL Toch 157 a3	|tráska-|
nəytt-	'collapse'	inf. *naittatsi* THT 270 a3	|náytta-|
pəla-	'praise'	sbj.mid.1sg. *pālamar* THT 240 b6 opt.mid.1sg. *pāloymar* PK AS 5A a5 sbj.vn. *pālalñe* THT 14 a6	|pála-|
pəya-	'trumpet'	sbj.vn. *pāyalyñe* PK AS 15D b2	|páya-|

Root	Meaning	Examples of diagnostic forms	Analysis
pəyk-	'paint, write'	sbj.mid.3sg.-3sg. *paiykatär-ne* IOL Toch 213 a2 sbj.vn.per. *paikalñesa* PK NS 27 a3 inf. *paikatsi* THT 357 a6	|páyka-|
mənt-	'hurt; stir'	sbj.mid.3sg.-3sg. *māntatär-ne* THT 331 a1 sbj.vn. *māntalñe* THT 171 a4 inf. *māntatsi* THT 596 b5	|mánta-|
məyw-	'tremble'	sbj.vn. *maiwalñe* PK AS 2C a2 inf. *maiwatsi* PK AS 13I a7	|máywa-|
layka-	'wash'	sbj.vn. *laikalñe* THT 271 b3 inf. *laikatsi* IOL Toch 723 b2	|láyka-|
ləwp-	'rub'	sbj.vn. *lauwalñe* (*-p-* > *-w-*) PK AS 2C a5 inf. *laupatsi* W 34 b3	|láwpa-|
skəra-	'scold'	sbj.ger. *skāralñe* THT 122 a7 inf. *skāratsi* THT 266 b3	|skára-|

Roots that contain a basic internal *a*-vowel are also overwhelmingly accented on the first syllable in the subjunctive [5] (Malzahn 2010: 285), as shown in Table 5.15. As with the subjunctives [5] in Table 5.14 above, the only difference between the subjunctive [5] and preterite [1] stem of these verbs is in the accent; e.g., *karpa-* 'descend' has a preterite [1] stem |karpá-| beside its subjunctive [5] stem |kárpa-|.

Several subjunctives [5] that are expected to belong to this group are not attested in forms that are diagnostic for the placement of the accent, as far as I can tell on the basis of the forms collected and cited by Malzahn (2010). They are *alpa-* 'stroke', *auswa-* '± cry, lament', *klapa-* '± touch', *trappa-* 'trip', *naska-* 'spin?', *patka* 'give up', *pasa* '± speak', *pauta-* 'flatter', *yanka-* 'be deluded', *latka-* 'cut off', *waka-* 'split', *skaya-* 'strive', *śampa-* 'be conceited', *spawa-* 'diminish', *swara-* 'please', and *waska-* 'stir'.

Table 5.15: Subjunctives [5] with a basic *a*-vowel in the root and consistent *a*-grade in the subjunctive, with diagnostic forms showing their first-syllable accent in the subjunctive.

Root	Meaning	Examples of diagnostic forms	Analysis
aksa-	'wake up (itr.)'	sbj.vn. *āksalñe* PK AS 4A b5	|áksa-|
ara-	'cease	sbj.vn. *āralñe* PK NS 414 a3 inf. *āratsi* THT 282 a1	|ára-|
art(t)a-	'love, praise'	sbj.mid.3pl. *ārtantär* PK AS 13D a9 opt.mid.1sg. *ārttoymar* PK AS 5C a2 sbj.ger.m.pl. *ārttalyi* THT 1119 b1 sbj.vn. *ārttalñe* THT 107 a4	|árt(t)a-|

Root	Meaning	Examples of diagnostic forms	Analysis
kaka-	'call'	sbj.mid.3sg. *kākatär* THT 331 b2 opt.mid.1sg. *kākoyma(r)* IOL Toch 82 a2 sbj.vn. *kākalñe* THT 543 a1 inf. *kākatsi* THT 241 a1	|káka-|
kanta-	'rub'	opt.mid.3sg. *kāntoytär* THT 19 b6 sbj.vn.abl. *kāntal(ñ)emeṃ* THT 532 a2 inf. *kāntatsi* THT 324 a1	|kánta-|
kant^{s}a-	'sharpen'	inf. *kāntsasi* THT 432 b4	|kánt^{s}a-|
kara-	'gather'	inf.-all. *kāratsi-śco* THT 23 a7	|kára-|
karpa-	'descend'	sbj.act.2sg. *kārpat* THT 384 b4 sbj.vn.gen.sg. *kārpalñents(e)* PK AS 17H b1 inf. *kārpatsi* PK AS 17G b6	|kárpa-|
kawa-	'desire'	sbj.vn.per. *kāwalyñesa* THT 102 a3 inf. *kāwatsi* PK AS 13F b6	|káwa-|
kawta-	'split, cleave'	sbj.mid.3sg. *kautatr=* THT 61 b3 sbj.vn. *kautalñe* THT 5 a3 inf. *kautatsi* THT PK AS 6L a2	|káwta-|
krawp-	'gather'	sbj.mid.1sg. *kraupamar* PK AS 6A b1 sbj.mid.3sg. *kraupatär* PK AS 17D a4 sbj.ger. *kraupalle* THT 33 a5 sbj.vn. *kraupalñe* THT 155 a2 inf. *kraupatsi* THT 1573.a b1	|kráwpa-|
klanka-	'drive'	inf. *klāṅkatsi*$^{(a)}$ see Malzahn 2010: 617–618	|klánka-|
klaya-	'fall'	sbj.act.2sg. *klāyat* IOL Toch a44 a5 sbj.ger.f.pl. *klāyallona* THT 1374.g a3 sbj.vn. *klāyalñe* PK NS 53 b4	|kláya-|
klayksa-	'dry up'	inf. *klaiksatsi* THT 11 b3	|kláyksa-|
klawtka-	'return'	sbj.ger. *klautkalle* THT 1681 b4	|kláwtka-|
taka-	'be, become'	sbj.act.2sg. *tākat* THT 22 b2 sbj.act.1pl. *tākam* THT 77 a1 sbj.act.2pl. *tākacer* THT 107 b3 opt.act.2sg. *tākoyt* THT 5 b8 opt.act.2pl. *tākoycer* THT 338 a6	|táka-|
nawta-	'disappear'	sbj.act.3pl.-3sg. *nautan-ne* PK AS 7G a1 sbj.ger. *nautalle* THT 268 b1 sbj.vn. *nautalñe* THT 30 a3	|náwta-|

Root	Meaning	Examples of diagnostic forms	Analysis
planta-	'rejoice'	sbj.act.1pl. *plāntam* PK AS 17C a5 inf. *plāntatsi* THT 1235 a1	|plánta-|
mansa- *+ mens-*	'be sorrowful'	sbj.mid.3pl. *māntsanträ* PK AS 15J b3 sbj.vn. *māṃtsalyñe* THT 88 a4	|mántˢa-|
mawka-	'refrain from'	sbj.vn. *maukalyñ(e)* THT 1270 b1	|máwka-|
mrawska-	'feel disgust'	sbj.ger. *mrauskalle* PK AS 7L a4 vn. *mrauskalñe* THT 3 b2	|mráwska-|
yata-	'be able'	opt.mid.3sg.-1sg. *yāto-ñ* IOL Toch 269 a4 sbj.ger. *yātalle* THT 127 a4 sbj.vn. *yātalñe* THT 600 a3 inf.all. *yātatsiś* THT 30 a3	|yáta-|
yawkk-	'use'	sbj.mid.3pl. *yaukkanträ* THT 36 b3	|yáwkka-|
raka-	'extend' ?	opt.mid.3pl.-1sg. *rākoyentär-ñ* THT 271 a1	|ráka-|
rapa-	'dig; plough'	inf. *rāpatsi*$^{(b)}$ IOL Toch 246 a2	|rápa-|
layta-	'fall, pass'	sbj.vn. *laitalñe* THT 5 a4	|láyta-|
wapa-	'weave'	inf. *wāpatsi* IOL Toch 7 b4	|wápa-|
ak-	'lead'	sbj.ger. *wāyalle* PK NS 79.1 a5 inf. *wāyatsi* IOL Toch 151 a3	|wáya-|
waywa-	'be wet'	sbj.vn. *waiwalñe* PK AS 2C a2	|wáywa-|
wala-	'cover'	opt.mid.3sg. *wāloyträ* PK AS 5C b2 sbj.vn. *wālalñe* THT 534 a4	|wála-|
waltsa-	'crush'	inf. *wāltsasi* PK DA M 507.23 a16	|wáltˢa-|
wrata-	'form'	sbj.vn. *wrātalñe* IOL Toch 133 b2	|wráta-|
wlawa-	'control'	sbj.mid.3sg. *wlāwatärä* IOL Toch 78 b1 opt.mid.1sg. *wlāwoymar* IOL Toch 307 a5 sbj.vn *wlāwalñe* IOL Toch 785 b3	|wláwa-|
samp-	'take away'	sbj.ger. *sāmpal(l)e* IOL Toch 603 b4 inf. *sāmpatsi* IOL Toch 214 a5	|sámpa-|
səwa- *+ swasa-*	'rain'	sbj.ger. *swāsallye* IOL Toch 7 a1 vn. *swāsalñe* THT 1539.d a3	|swása-|
skawa-	'kiss' ?	inf. *skāwa(tsi)* THT 83 a3	|skáwa-|
spartta-	'turn'	sbj.vn. *spārttalñe* THT 149 a2 inf. *spārtatsi* THT 249.a b1	|spártta-|
tˢarwa-	'be comforted'	opt.mid.3sg. *tsārwoyträ* SI B 119(1) a1	|tˢárwa-|
tˢalta-	chew'	sbj.ger. *tsāltalye* IOL Toch 248 b1	|tˢálta-|

(a) Cited by Thomas (1952: 50 fn. 3) without a reference, so that the existence of this form cannot be properly verified (see Malzahn 2010: 617; Peyrot 2013: 742 fn. 712).
(b) The supposed verbal noun *rapālñe*, with conflicting medial accent, was incorrectly identified, see Peyrot (2018b: 265–266).

Peyrot has provided an interpretation for the fixation of the accent on the first syllable within Marggraf's framework of a progressive accent shift from the first to the second syllable (Peyrot 2013: 510), which accords with the rules of epenthesis and syncope discussed in the previous section (5.2). Due to the shape of the person-number endings, subjunctive [5] would have regularly developed with initially accented 1sg., 3sg. and 3pl. forms next to medially accented 2sg., 1pl. and 2pl. forms. In the corresponding preterite [1], all forms except the 3sg. would have had a consistent second-syllable accent due to the addition of an extra syllable with the preterite endings (Peyrot 2013: 511–512). Table 5.16 displays the implied historical change in combination with a diachronic progressive accent shift from the first to the second syllable in trisyllabic words (Peyrot 2013: 510),

Table 5.16: An illustration of the analogical change that caused the first-syllable accent of the subjunctive [5], according to Peyrot (2013: 510–512).

	sbj.[5]		regularized	prt.[1]	
	initial	shift	>> |táka-|	initial	shift > |taká-|
1sg.	**táka-w*	**táka-w*	*tákaw*	**táka-wa*	*taká-wa*
2sg	**táka-tə*	**taká-tə*	>> *tákat*	**táka-sta*	*taká-sta*
3sg.	**táka-n*	**táka-n*	*tákan*	**táka-∅*	*táka*, *taká-ne*
1pl.	**táka-mə*	**taká-mə*	>> *tákam*	**táka-mə*	*taká-mə*
2pl.	**táka-cer*	**taká-cer*	>> *tákacer*	**táka-sə*	*taká-sə*
3pl.	**táka-n*	**táka-n*	*tákan*	**táka-re*	*taká-re*

Of these forms of the paradigm, the subjunctive 1pl. **takámə* would have been identical to the preterite 1pl **takámə*. To repair this ambiguity, the subjunctive took over the initial accent of 1sg. **tákaw*, 3sg. **tákan* and 3pl. *tákan*. As the accent provided a new way to morphologically differentiate the preterite and subjunctive stems, the other forms followed suit (Peyrot 2013: 511–512).

The remaining subjunctives [5] with their accent on the first syllable are listed in Table 5.17. Around half of these demonstrably have ablaut of *a*-grade in the active singular and *ə*-grade in the other forms. It is possible that more of them showed this alternation, but that this is not visible in all cases due to a lack of attested diagnostic active singular forms. The subjunctives for which ablaut is confirmed by active singular

forms are marked in the table below with superscript "a." behind the morphophonological analysis of the subjunctive stem.

Table 5.17: Subjunctives [5] with *ə*-roots or ablauting roots and stable first-syllable accent.

Root	Meaning	Examples of diagnostic forms	Analysis
kəta-	'strew'	opt.mid.3sg. *katoytr*= THT 42 b5 inf. *katasi* PK DA M 507.27 a3	|kə́ta-|$^{(a)}$
kətka-	'cross'	sbj.act.2sg. *kātkat* THT 1103 a4 sbj.ger.m.pl. *katkalyi* THT 539 a3 sbj.vn. *katkalñe* PK NS 171 a1 inf. *katkatsi* IOL Toch 387 a2	|kátka-|$^{(a)}$ |kə́tka-|
kərka-	'steal'	inf. *karkats*(*i*) THT 14 b8	|kə́rka-|
kərsa-	'know'	sbj.vn. *karsalñe* THT 183 b2 inf. *karsatsi* PK AS 16.2 b5	|kə́rsa-|$^{(a)}$
krəst-	'cut off'	opt.mid.1sg. *karstoymar* IOL Toch 307 b1 opt.mid.3sg. *karstoytär* THT 271 b1 inf. *karstatsi* PK AS 4B a3	|krə́sta-|$^{(a)}$
kəla-	'lead'	sbj.mid.2sg. *kalatar* PK AS 18A b3 sbj.mid.3sg. *kalatär* PK AS 18.18 b2 inf. *kalatsi* THT 77 a4	|kə́la-|$^{(a)}$
kləntˢ-	'sleep'	sbj.vn. *klantsalñe* PK AS 2C b4	|klə́ntˢa-|
kləwtka-	'turn'	inf. *klutkatsi* THT 1446 a3	|klə́wtka-|
kʷəsa-	'lament'	sbj.vn. → der.adj. *kwasalñeṣṣe* THT 86 a2	|kwə́sa-|
tərka-	'dismiss'	sbj.act.1pl. *tarkam* PK AS 16.2 a5 sbj.act.2pl. *tarkacer* THT 28 a1 sbj.ger.f.pl. *tarkall*(*e*) THT 518 a2 sbj.vn. *tarkalñe* PK AS 2C a5 inf. *tarkatsi* THT 42 a7	|tə́rka-|$^{(a)}$
nəwa-	'cry'	sbj.vn. *nūwalñe* THT 1304 a3	|nə́wa-|
pənna-	'stretch'	inf..all. *pannatsiś* THT 9 b3	|pə́nna-|$^{(a)}$
pəlka-	'see'	sbj.act.1pl. *palkam* PK AS 16.8 a3 sbj.vn. *palkalñe* THT 41 b7 inf. *palkatsi* IOL Toch 213 a1	|pə́lka-|$^{(a)}$
məka-	'run'	inf. *makatsi* THT 10 a4	|mə́ka-|
mərtka-	'shave'	sbj.vn. *markalñ·* (*-rtk-* > *-rk-*) THT 309 a4 inf. *markasi* PK DA M 507.35 a46	|mə́rtka-|
mərsa-	'forget'	inf. *marsatsi* THT 556 a2	|mə́rsa-|$^{(a)}$

Root	Meaning	Examples of diagnostic forms	Analysis
məlka-	'put on'	sbj.vn. *malkalñe* IOL Toch 49 a1	|məlka-|
pləska-	'consider'	opt.mid.3sg. *palskoyträ* THT 300 a3 sbj.vn. *palskalñe* IOL Toch 748 a1 inf. *palskatsi* IOL Toch 96 b5	|pləska-|$^{(a)}$
pəwtka-	'divide'	sbj.vn. *putkalñe* THT 172 b2 inf. *putkatsi* PK AS 6E b6	|pəwtka-|$^{(a)}$
məyta-	'set out (itr.)'	sbj.ger.loc. *mītalyene* PK AS 5B b4	|məyta-|
yəksa-	'embrace'	inf. *yaksatsi* THT 1262 a3	|yəksa-|
yəwka-	'overcome'	sbj.vn. *yukalñe* THT 512 a4 inf. *yukatsy* S 1 a6	|yəwka-|
rənka-	'ascend'	sbj.ger. *raṅkal(l)e* THT 355 a6	|rənka-|
rəss-	'tear'	sbj.vn. *rassalñe* PK AS 7C b2	|rəssa-|
rəynka-	'?'	inf. *riṅkatsi* W 39 b1	|rəynka-|
rəyta-	'seek'	sbj.ger. *ritale* PK AS 8C a6 sbj.vn. *rītalñe* SI P 2 b1 inf. *ritatsi* THT 1574 b1	|rəyta-|
rəwtka-	'(re)move'	sbj.vn. *rutkalyñ*= THT 290 a5 inf.all. *rutkatsiś* THT 537 a2	|rəwtka-|$^{(a)}$
ləma-	'sit'	sbj.act.2sg. *lāmat* THT 567 a1 sbj.ger.per. *lamallesa* IOL Toch 247 a6 inf. *lamatsi* IOL Toch 247 a3	|láma-|$^{(a)}$ |ləma-|
ləwka-	'?'	inf. *lukatsi* PK DA M 507.42 and .40 b5	|ləwka-|
wəta-	'fight'	sbj.vn. *watal(yñe)* THT 1107 a5	|wəta-|
wərpa-	'enjoy'	sbj.mid.1sg. *warpamar* PK AS 15E b3 sbj.mid.2sg. *warpatar* THT 1104 b3 sbj.mid.3sg. *warpatär* THT 1104 a2 opt.mid.1sg. *warpoymar* THT 20 a5 opt.mid.3sg. *warpoyträ* THT 1543.d a5 sbj.ger. *warpalle* THT 107 b10 sbj.vn. *warpalñe* THT 156 b4 inf. *warpatsi* PK AS 7C a2	|wərpa-|
səlk-	'pull out'	sbj.mid.1sg. *salkamar* THT 296 b5 inf. *salkatsi* THT 1323.a a4	|səlka-|$^{(a)}$
stəma-	'stand'	sbj.vn. *stamalñe* THT 182 a5 inf. *stamatsi* PK AS 8C b3	|stəma-|$^{(a)}$

Root	Meaning	Examples of diagnostic forms	Analysis
srəwka-	‘die’	sbj.ger. *srukalle* THT 309 a4 vn. *srukalñe* THT 108 b4	|srə́wka-|(a)
tˢənka-	‘(a)rise’	sbj.ger.m.pl. *tsaṅkalyi* THT 608 a3 sbj.vn. *tsaṅkalñe* THT 197 a3 inf. *tsaṅkatsi* THT 561 a2	|tˢə́nka-|(a)

(a) These roots have active singular subjunctives form attested, showing ablaut.

The initial accent of the majority of the verbs in Table 5.17 can be interpreted as an extension of the type exhibited in the subjunctive of *táka-*, illustrated above in Table 5.16 after Peyrot (2013: 511–512). The *a*-grade 2sg. may have been adapted first due to the closer correspondence of the *a*-grade singular forms to the *táka*-type (Peyrot 2013: 514), creating an association between the full grade and initial accent (ibid.). This is illustrated in Table 5.18.

Table 5.18: Analogical extension of the first-syllable accent first to the full-grade forms and then the general paradigm of ablauting subjunctives [5].

	kətka- ‘strew’ shifted		sbj.[5] >> |ká/ətka-|	*taka-* ‘be’ sbj.[5] |táka-|	*kətka-* ‘cross’ prt.[1] |śətká-|
1sg.	**kátka-w*	**kátkaw*	*kátkaw**	*tákaw*	*śətkáwa*
2sg	**katká-tə*	>> **kátkat*	*kátkat*	*tákat*	*śətkásta*
3sg.	**kátka-n*	**kátkan*	*kátkan*	*tákan*	*śə́tka* (*śətká-ne**)
1pl.	**kətká-mə*	**kətkám*	>> *kátkam**	*tákam*	*śətkám**
2pl.	**kəká-cer*	**kəkácer*	>> *kátkacer**	*tákacer*	*śətkás**
3pl.	**kátka-n*	**kátkan*	*kətkan**	*tákan*	*śətkáre*

A differentiation in the placement of the accent between the subjunctive and the preterite also seems to have been a potent force for the regularization of the accent in these categories, since even middle-only verbs with otherwise identical subjunctive and preterite stems ended up using this strategy, despite all forms being (originally) trisyllabic; see Table 5.18. This mechanism is thus perhaps formulated too cautiously by Peyrot (2013: 511–512). It came to apply to an entire category of verbs with otherwise identical preterite and subjunctive stems

Table 5.19: Analogical differentiation of the subjunctive [5] and preterite [1] stems, illustrated with middle-only verb *wərpa-* 'enjoy'.

	sbj.[5]		secondary	prt.[1]	regular
	initial	shifted	>> |wárpa-|	initial	> |wərpá-|
1sg.	**wárpamar*	**wərpámar*	>> *wárpamar*	**wárpamay*	*wərpámay*
2sg	**wárpatar*	**wərpátar*	>> *wárpatar*	**wárpatay*	*wərpátay*
3sg.	**wárpatər*	**wərpátər*	>> *wárpatər*	**wárpate*	*wərpáte*
1pl.	**wárpamtər*	**wərpámtər*	>> *wárpamtər**	**wárpamte*	*wərpámte*
2pl.	**wárpatər*	**wərpátər*	>> *wárpatər**	**wárpatə*	*wərpát**
3pl.	**wárpantər*	**wərpántər*	>> *wárpantər**	**wárpante*	*wərpánte*

One remaining ablauting subjunctive [5] appears to have had a variable accent, illustrated in Table 5.20. However, the evidence for the initially accented full grade form consists of only a single attestation, *kāskat*, which could in principle be a misspelling for *kaskāt** with an accent on the second syllable. If not, this verb might conserve an intermediate stage as per the mechanism of change illustrated in Table 5.18.

Table 5.20: Accentuation of the subjunctive [5] of *kəska-* 'scatter', with diagnostic attested forms.

Root	Meaning	Examples of diagnostic forms	Analysis
kəska-	'scatter'	sbj.act.2sg. *kāskat*	|káska-|
		sbj.mid.3sg. *käskātär*	|kəská-|
		sbj.vn. *käskälläñe*	

Subjunctives [5] with non-initial accent

The rest of the subjunctives of class [5] whose accent can be determined are only found with a *ə*-grade (no ablaut) and are accented on the second syllable (Peyrot 2013: 514), as shown in Table 5.21.

Table 5.21: Subjunctives (and present-subjunctives) [5] with ablaut or with a *ə*-vowel in the root and first-syllable accent, with diagnostic attested forms.

Root	Meaning	Examples of diagnostic forms	Analysis
kərra-	'scold'	sbj.mid.3sg.-pl. *kärrātär-me* THT 1575.b a4	|kərrá-|
kəlska-	'go down'	sbj.vn. *kälskālñe* THT 1597.b a2	|kəlská-|
kʷəla-	'fail'	sbj.mid.3sg.-pl. *k_ulātär-me* THT 21 b5	|kʷəlá-|
		sbj.vn. *k_ulālñe* IOL Toch 211 b4	
		inf. *k_ulātsi* THT 222 b3	

Root	Meaning	Examples of diagnostic forms	Analysis
krəmpa-	'be hindered'	sbj.vn. *krämpālñe* THT 127 a1	|krəmpá-|
tətta-	'put'	sbj.mid.3pl. *tättāntär* THT 27 a6 sbj.vn. *tättālñe* THT 3 b2	|təttá-|
təyna-	'defile oneself'	sbj.mid.3pl. *tinānträ* THT 408 b6	|təyná-|
trəywa-	'be mixed'	sbj.mid.3sg. *triwātär* IOL Toch 269 a2 sbj.vn. *triwālñe* IOL Toch 227 a3 inf. *triwātsi* THT 26 b4	|trəywá-|
trəwka-	'allot to'	sbj.ger. *trukāle* THT 433 a4	|trəwká-|
pərka-	'become clear'	sbj.mid.3sg. *pärkāträ* THT 1321 b4 sbj.vn. *pärkālñe* PK AS 5C b6	|pərká-|
prəwtka-	'be shut'	sbj.mid.3sg. *prutkātär* THT 596 a1 sbj.mid.3pl. *prutkāntä(r)* THT 569 a3 opt.mid.3sg. *prutkoytr=* SI P 2 b6 sbj.vn. *prutkālñe* THT 155 b6	|prəwtká-|
plənka-	'be sold'	inf.per. *pläṅkā(ts)is(a)* PK AS 8A b9	|plənká-|
mənka-	'lack'	sbj.mid.3sg. *mäṅkātär* THT 1466.b a3	|mənká-|
mətˢtˢa-	'starve'	sbj.mid.3sg. *mätsātär* PK LC 20 a2	|mətˢtˢá-|
məwska-	'get lost'	sbj.vn. *muskālñe* IOL Toch 239 a1 inf.all. *muskātsiś* PK AS 5C a4	|məwská-|
mləwta-	'pluck?'	sbj.ger. *mlutālle* W 3 a4	|mləwtá-|
mləwtka-	'escape'	sbj.mid.1sg. *mlutkāmar* THT 375 a5	|mləwtká-|
rəma-	'bend'	opt.mid.3sg. *rmoytär* THT 81 a4	|rəmá-|
rəytta-	'be attached'	sbj.mid.3sg. *rittāträ* THT 108 a7 sbj.vn.abl. *rittālñemeṃ* THT 3090 a2	|rəyttá-|
ləka-	'see'	sbj.act.2sg. *lkāt*, 3sg.-3sg. *lkā-ne* sbj.act.1pl.-2sg. *lkām-c*, 2pl. *lkācer* sbj.mid.3sg. *lkātär*, 3pl. *lkāntär* sbj.ger. *lkālye*, vn. *lkālyñe* inf. *lkātsi*	|ləká-|
ləypa-	'remain'	sbj.mid.3sg. *lipāträ* IOL Toch 306 a5 inf. *lipātsi* THT 497 b6	|ləypá-|
wətka-	'be separated'	opt.mid.1pl. *wätkomträ* PK AS 17E b5	|wətká-|
wəra-	'smell'	inf. *wrātsi*$^{(a)}$ PK AS 7H b3	|wərá-|
wəyka-	'dwindle'	sbj.mid.3sg. *wikātär* PK AS 17J b5 sbj.vn. *wikālñe* THT 1354.a a3 inf. *wikātsi* THT 127 b6	|wəyká-|

Root	Meaning	Examples of diagnostic forms	Analysis
śəwa-	'eat'	sbj.act.3pl.-1sg. *śwā-ñ* THT 83 a6 sbj.ger. *śwālle* THT 335 b4 inf. *śwātsi* THT 335 b4	|śəwá-|
sətka-	'spread (itr.)'	sbj.vn. → der.adj. *sätkālñecci* THT 531 a4	|sətká-|
səya-	'sweat'	sbj.ger. *syālle* W 5 b2 sbj.vn. *syālñe* W 3 b4	|səyá-|
spənta-	'trust'	sbj.vn. *späntālñe* PK AS 17A b3	|spəntá-|
spərka-	'disappear'	opt.mid.3sg. *spärkoytär* PK AS 5D a1 sbj.vn. *spärkālñe* THT 409 b5	|spərká-|
tˢəma-	'grow'	sbj.mid.3pl. *tsmāntär* THT 64 a8 sbj.vn. *tsmālñe* THT 537 b4 inf.-all. *tsmātsi-śco* THT 1509 b1	|tˢəmá-|
tˢəra-	'be separated'	sbj.ger. *tsrālle* THT 405 a5 sbj.vn. *tsrālñe* THT 200 b2	|tˢərá-|
tˢəlpa-	'pass away'	sbj.vn. *tsälpālñe* THT 30 a1 inf. *tsälpātsi* THT 1121 b3	|tˢsəlpá-|

(a) A hapax legomenon, see Peyrot (2013: 820 fn. 849).

A number of the verbs in this category differentiate the finite subjunctive and preterite in another way than with the accent, as pointed out by Peyrot (2013: 513–514). The preterites of *ləka-* 'see' and *śəwa-* 'eat' are |ĺaká-| and |śawá-| respectively, with *a*-grade next to subjunctives with stable *ə*-grade, and *tətta-* 'put' combines with the preterite [3] *təs-*. Of the remainder that have attested finite forms in both the subjunctive and preterite, there are ten that belong to a pattern with middle forms in the subjunctive and active forms in the preterite. They are *kʷəla-* 'fail', *trəywa-* 'be mixed', *pərka-* 'become clear', *prəwtka-* 'be shut', *mənka-* 'lack', *rəytta-* 'be attached', *ləypa-* 'remain', *wəyka-* 'dwindle', *spərka-* 'disappear', *tˢəma-* 'grow' and *tˢəlpa-* 'pass away'. Only two, *kərra-* 'scold' and *rəma-* 'bend' have middle subjunctive forms attested next to middle preterite forms. The others have either no finite subjunctive forms or no finite preterite forms attested to make sure how they should be categorized. The present, where attested, belongs to the middle-only *e*-presents [class 3] (Jasanoff 2015: 91), except for *trəwka-* 'allot to', which has a *na*-present [class 6], and *mləwta-* '±pluck', which has an *sk*-present [class 9].

The accentuation of the subjunctives of the following roots with a subjunctive [5] are unclear to me on the basis of the forms cited by Malzahn (2010): *pərsa-* 'sprinkle', *pərska-* 'be afraid', *klətˢa-* 'oppress', *təksa-* '± destroy', *təwka-* 'hide oneself', *trəyka-* 'go astray', *nətka-* 'push away', *nəwka-* 'swallow', *prənka-* 'restrain oneself, *yəya-* 'go along', *ləwa-* 'send', *wərka*/*warka-* 'shear'?, *səyka-* 'step', and *tˢəyka-* 'form'.

None of the subjunctive [5] forms should have been exempt from progressive accent shift under to Jasanoff's "*yāmu*-rule", since they have a stem-final *-a*. One might assume, therefore, that in this category there would be no functional difference between this theoretical limited accent shift and the general accent shift assumed by Peyrot (2013) and Marggraf (1970). However, Jasanoff's account of this category is actually quite different. Rather than an analogical interplay between observable types of paradigms, as with Peyrot's scenario in Table 5.16, Jasanoff argues that verbs with a subjunctive [5] and accompanying preterite [1] represent two etymologically distinct verbal classes that merged by a process of mutual assimilation: one former class would represent PIE laryngeal-final roots, which regularly developed final *-a*, while the other would consist of roots that had no laryngeal and thus originally no final *-a*. The *e*-grade of the original *a*-less roots was taken from that class, while the *-a* was generalized in the other direction. This scenario is illustrated in Table 5.22.

Table 5.22: An illustration of the development of the subjunctive [5] in Jasanoff's scenario.

	initial	"yāmu-rule"	analogy 1	analogy 2	analogy 3
act.sg.	*kə́rsa-*	*kərsá-*	>> *kérsa-*	*kérsa-*	*kérsa-*
act.pl.	*kə́rsa-*	*kərsá-*	*kərsá-*	*kərsá-*	>> *kə́rsa-*
act.sg.	*wéykə-*	*wéykə-*	*wéykə-*	>> *wéyka-*	*wéyka-*
act.pl.	*wə́ykə-*	*wəykə́-*	*wəykə́*	>> *wəykə́-*	>> *wə́yka-*

Thus, verbs of the type **kərsa-* 'know' were supposedly changed to **kersa-* under influence of the type **weykə-* 'dwindle', which in turn became **weyka-*. In original **weykə-*, the accent would be regularly on the first syllable according to Jasanoff's "*yāmu*-rule", and this accentuation was then retained when **wéykə-* became **wéyka-*, and extended to **kérsa* (expected ***kersá-* with Jasanoff's *yāmu*-rule) (Jasanoff 2015: 92; also Jasanoff 2013). This development is not apparent from the Tocharian data and relies on the unverifiable timing of the extension of final *-a* and accent shift. It additionally requires at least as far-reaching analogical changes as in Peyrot's scenario, and does not seem to provide any extra explanatory benefit. Peyrot's scenario is thus to be preferred over Jasanoff's.

Subjunctives [1] with and without first-syllable accent

In the root subjunctive [class 1] there are also verbs with and without first-syllable accent. This variation is illustrated in Table 5.23 with the initially accented forms *prek-* 'ask' and the variably accented forms of *ay-* 'ask'. Not all person-number forms are well-attested.

Table 5.23: Two example paradigms of the subjunctive [1].

	prek- 'ask' sbj.[1]		*ay-* 'give' sbj.[1]	
	base	suffixed	base	suffixed
1sg.	*preku*	*preku-ne**	*āyu*	*ayu-ne*
2sg	*prekt**	*? prekt-ne**	*ait*	*aita-ne*
3sg.	*prekäṃ*	*prekäṃ-ne**	*aiṃ*	*? aiṃ-ne**
1pl.	*parkäm*	*parkäm-ne**	*aim*	?
2pl.	*parkcer*	*? parkcer-ne**	*aicer**	?
3pl.	*parkäṃ*	*parkäṃ-ne**	*aiṃ*	*? aiṃ-ne**

The subjunctive [1] is usually coupled with a sigmatic preterite [class 3], which was discussed in the previous subsection (5.3.3). Table 5.24 and Table 5.25 give an overview of the verbs with a subjunctive [1] for which the accentuation can be established. The verbs in Table 5.24 have consistent initial accent, while those in Table 5.25 do not.

To my knowledge, no diagnostic forms are attested for the remaining verbs in this subjunctive class, namely *al-* 'keep away', *ewk-* 'grant', *kəl-* 'bear', *kəw-* 'pour', extinguish', *kaw-* 'kill', *pəwtk-* 'close', *plak-* 'agree (act.); ask permission (mid.)', *plətk-* 'emerge', *y-* 'go', *rək-* 'extend (tr.)', *rənk-* 'lift'?, *rəyn-* 'leave, give up', *rəw-* 'open', *lənk-* 'hang up', *wotk-* 'separate, decide', *wəs-* 'wear', *səyn-* 'rest on', *səyn-* 'be satiated, depressed', *smәy-* 'smile', *tˢənk-* 'flay'.

Table 5.24: Subjunctives [1] with first-syllable accent.

Root	Meaning	Examples of diagnostic forms	Analysis
ar-	'abandon'	sbj.act.3sg.-2sg. *oräñ-c* THT 46 a8	|órə-|
er-	'cause'	sbj.vn. *erälyñe* THT 1363.d a3	|érə-|
kaw-	'kill'	sbj.vn. *kāwälñe* THT 540 a2	|káwə-|
klənk-	'doubt'	sbj.vn. *klaṅkälyñe* PK AS 6D b3	|klánkə-|
tək-	'touch'	sbj.act.3sg.-pl. *tekä(ṃ)-me* IOL Toch 23 b2 sbj.vn. *takälñe* IOL Toch 998 b3	|tékə-| |tákə-|
tənk-	'stop'	sbj.act.3sg.-2sg. *teṅkäñ-c* THT 1113 a2-3	|ténkə-|
nak-	'blame'	sbj.vn. *nākälyñe* SI B 117 b2	|nákə-|
pyak-	'smash'	opt.act.1sg.-pl. *pyāśim-me* IOL Toch 82 a3 opt.act.3sg.-3sg. *pyāśi-ne* IOL 127 a4 sbj.ger. *pyākäle* PS BI 13 b2	|pyákə-|

Root	Meaning	Examples of diagnostic forms	Analysis
prək-	'ask'	sbj.act.3sg.-3sg. *prekäṃ-ne* PK AS 8C b6 sbj.act.3pl.-pl. *parkän-me* THT 7 a2 opt.act.2sg. *parśit* THT 291.a a2	|prékə-| |prə́kə-|
pləw-	'float'	sbj.act.3sg. *plyewä-ñ* PK AS 17C a5 sbj.vn. *pluwälyñe* IOL Toch 30 b5	|pléwə-| |pləwə-|
yəp-	'enter'	sbj.act.3sg.-3sg. *yopäṃ-ne* THT 41 b3 opt.act.2sg. *yapit* THT 246 a2 sbj.vn. *yapälñe* PK NS 54 a5	|yópə-| |yə́pə-|
tˢəwk-	'suckle'	sbj.ger.abl. *tsukälemeṃ* THT 139.d a3	|tˢə́wkə-|

Table 5.25: Subjunctives [1] without first-syllable accent.

Root	Meaning	Examples of diagnostic forms	Analysis
ay-	'give'	sbj.act.1sg.-3sg. *ayu-ne* THT 25 a7	|ayə́-|
awn-	'hit; begin'	sbj.mid.3pl. *aunantär* THT 27 a7	|awnə́-|
eṅk-	'take'	sbj.mid.3pl. *eṅkanträ* THT 37 a7 sbj.vn. *eṅkalñe* IOL Toch 133 b4	|enkə́-|
trənk-	'lament'	sbj.vn. *träṅkalyñe* THT 89 b4	|trənkə́-|
nes-[(a)]	'be'	prs-sbj.ger. *nesalle*	|nesə́-|
pəkʷ-	'trust'	sbj.vn. *pkwalñe* THT 428 b8	|pəkʷə́-|
yam-	'do'	sbj.mid.1pl. *yamamtär* THT 404 b8 sbj.mid.3pl. *yamantär* THT 21 a2 sbj.ger. *yamalle* THT 575 b6 sbj.vn. *yamalñe* THT 77 a4	|yamə́-|
yok-	'drink'	sbj.vn. (*yo*)*kalyñeme*(*ṃ*) THT 1103 b1	|yokə́-|
tˢərk-	'burn'	sbj.ger. *tsärkalle* IOL Toch 305 b5	|tˢərkə́-|

(a) The finite subjunctive of this verb is provided by suppletive *taka-*, but *nesalle* functions both as the present and the subjunctive gerundive (see, e.g., Malzahn 2010: 691).

The distribution is quite balanced, with 12 subjunctive [1] verbs with stable initial accent (Table 5.24), and 9 without (Table 5.25). In all cases where the subjunctive [1] has initial accent, the attested asigmatic preterite [3] stem is identical to the subjunctive stem except for the accentuation; e.g., *prək-* 'ask' has prt.[3] |prekə́-| and sbj.[1] |prékə-|. Only *klənk-* 'doubt' and *tənk-* 'stop' have no preterite attested. In the group of subjunctives [1] with non-initial accent, only *awn-* 'hit; begin' has both active and middle forms in all tenses. Since *enk-* 'take' is a middle-only verb, the preterite stem is always sigmatic |énksa-|, and thus differentiated from the subjunctive. The preterite stem of *ay-* 'give' is

suppletive *wəsa-* and *yok-* 'drink' has an irregular present-preterite stem *yaśə-*/*yake-*; *yam-* 'do' has an *a*-preterite [1] *yamáṣṣa-*, based on the present stem, and *trənk-* 'lament' also seems to have had an *a*-preterite [1] *trənca-*. The preterites of *pəkʷ-* 'trust' and *tˢərk-* 'burn' are not attested.

None of the forms of the subjunctive paradigm overlap with forms in the preterite paradigm in all respects except accentuation, in the way that sbj.[5] 1pl. *tákam* would be the same as the prt.[1] 1pl. *takám* if it did not have initial accent, cf. Table 5.26. Nevertheless, the subjunctive type with initial stress expanded to this category, either to differentiate the stems of the subjunctives [1] and the (asigmatic) preterite [3] themselves despite a lack of direct competition—similar to the case of middle-only *a*-subjunctives [class 5] like *wərpa-* 'enjoy', where none of the middle endings caused a merger—or due to pressure from the great number of *a*-subjunctives with initial accent. Both factors may have been active at the same time, as illustrated in Table 5.26.

Table 5.26: Analogical pressures on the subjunctive [1] paradigm.

	sbj.[1] expected	regularized >> |pré/ə́kə-|	prt.[3] |prekə́-|	sbj.[5] |táka-|	sbj.[5] |ká/ə́tka-|
1sg.	**prékəw*	*prékəw*	*prekə́wa*	*tákaw*	*kátkaw*
2sg	**préktə*	*prékt*	*prekə́sta**	*tákat*	*kátkat*
3sg.	**prékən*	*prékən*	(*préksa*)	*tákan*	*kátkan*
1pl.	**pərkə́m*	>> *párkəm*	*prekə́m**	*tákam*	*kátkam*
2pl.	**párkcer*	*párkcer*	*prekə́s*	*tákacer*	*kátkacer*
3pl.	**párkən*	*párkən*	*prekə́r*	*tákan*	*kátkan*

Peyrot found an initial spark for the creation of initially-accented subjunctives in the paradigms of the type of subjunctive [5] with *a*-grade throughout the subjunctive paradigm and an accompanying identical preterite [1] stem (Table 5.18) above. From there, the drive for a differentiation between the subjunctive [5] stem and the preterite [1] stem in this type of verbs appears to have expanded and affected almost all verbs with identical subjunctives and preterite stems, both with and without final *-a*. The sound development that lies at the basis of this scenario is the progressive accent shift that is also in accordance with syncope and epenthesis as discussed in 5.2.

In Jasanoff's explanation of the accent, the stable first-syllable accentuation of full-grade forms of subjunctive [1] like act.3sg-3sg. *prékäṃ-ne* 'will ask', *tékäṃ-ne* 'will touch', *yópäṃ*-ne 'will enter' are regular following the "*yāmu*-rule". Initially accented zero-grade forms such as act.3sg-pl. *párkäṃ-me* 'will ask', on the other hand, would be analogical to the initial accent of the full-grade forms (Jasanoff 2015: 90–91).

The non-ablauting full-vowel roots *awn-* 'hit; begin', *nes-* 'be', *yam-* 'do', *yok-* 'drink', *ay-* 'give' and *eṅk-* 'seize' have the accent on the second syllable /ə/ instead of on the root vowel, contrary to what would be expected according to Jasanoff's *yāmu*-rule. Jasanoff assumes that *awn-* and *yok-* derive from athematic presents [class 1] and got their accentuation analogically from there (Jasanoff 2015: 91 fn. 9), although it remains unclear to me how it should have arisen even in that case within Jasanoff's framework. The accent of *yam-*, *ay-* and *eṅk-* would be analogous to their presents as well. Jasanoff assumes that the non-initial accent in subjunctive [1] forms of *yam-* 'do' is due to an analogical shift in the accentuation of the present [9] *yamásk-* from *yámәsk-* (expected according to Jasanoff's "*yāmu*-rule"), based on a generalization of non-initial accentuation in non-causative presents of this class [9] (Jasanoff 2015: 91 fn. 9). The motivations for this analogy are not enirely clear to me, though perhaps implied is a secondary differentiation from the causative presents of class [9].[62] All in all, Jasanoff's "*yāmu*-rule" remains inadequate also in the subjunctive class [1].

According to Winter, the initial accent found in the ablauting subjunctives of classes [1] and [5] is due to the earlier presence of a syllable before the stem: a lost reduplication syllable. The derivation of this category from the Indo-European perfect based on the ablaut TB *e* : *ə*, which could reflect the ablaut pattern of the PIE perfect **o* : **∅*. The perfect was reduplicated in Proto-Indo-European: **Ce-CoC-* : **Ce-CC-*. An initial reduplication syllable **Cə-* would have regularly disappeared by syncopation and simplification of the resulting geminate, i.e., **Cə-Cé-* > **CCé-* > *Cé-*, thus leaving a trace in Tocharian B only as fixed first-syllable accent (Winter 1994b: 305–308).

Malzahn follows Winter's connection with the perfect, but derives the subjunctives with initial accents from the perfect by addition of the present endings, rather than as continuing the perfect themselves in some way (Malzahn 2010: 309–310). While the preterite reduplication was later given up by analogy to non-reduplicated preterites, according to Malzahn, it was retained in the subjunctives, eventually leading to the first-

[62] There are eight other non-causative presents [9] with a full vowel in the root and accent on the second syllable /ə/: |yawkə́^{§§ə}/$_{ske}$-| to *yawkk-* 'use', |sompə́^{§§ə}/$_{ske}$-| to *samp-* 'take away', |spalkə́^{§§ə}/$_{ske}$-| to *spalk-* 'make an effort', |aksə́^{§§ə}/$_{ske}$-| to *aks-* 'announce', |arskə́^{§§ə}/$_{ske}$-| to *arsk-* 'finish', |yaskə́^{§§ə}/$_{ske}$-| to *yask-* 'beg', |aklə́^{§§ə}/$_{ske}$-| to *akl-* 'learn', |twasə́^{§§ə}/$_{ske}$-| to *twas-*'shine', all of which would also have their accent analogically changed, according to Jasanoff (2015: 93 fn. 15). |ásə^{§§ə}/$_{ske}$-| to *as-* 'fetch' appears to show initial accent per Jasanoff's "*yāmu*-rule", but Malzahn (2010: 533) reports that the only attested present form, *āṣṣäṃ*, is found in a metrical text, which means that it may rather reflect |asə́-ṣṣə-n|. At least the following seven presents [9] with root-final vowel *-a* would have regular second-syllable accent according to Jasanoff's "*yāmu*-rule": *aksa-* 'wake up', *nana-* 'recognize', *mәlla-* 'oppress', *mlәwta-* 'pluck (?)', *yәnm*(*a*)- 'get', *pәk‹n›a-* 'intend', *yәk‹n›a-* 'be careless'. The accent of *ə*-internal |rəynə́^{§§ə}/$_{ske}$-| to *rəyn-* 'give up' and |wəsə́^{§§ə}/$_{ske}$-| to *wəs-* 'dwell' would also be regular.

syllable accent found there. Since some subjunctives [1] and [5] do not show initial accent, Malzahn assumes that there was reduplication "at least some of these different kinds of paradigms, or maybe in just one of the morphological categories involved" (Malzahn 2010: 310). The subjunctives that do not have initial accent would have lost their reduplication syllable early on due to their root-internal *ə*-vowel. This follows the reduplication pattern in preterite participles, where *ə*-roots show no reduplication while full-vowel roots do (Malzahn 2010: 310–312). Since the derivation of the subjunctive from the perfect is not compelling, nor is any trace of reduplication found besides the first-syllable accent, Peyrot has pointed out that this explanation is circular (Peyrot 2013: 513).

Peyrot's explanation aligns most closely with the data, since in those cases where the subjunctive does not have initial accent, the preterite is differentiated by some other means: either it is morphologically active next to a middle subjunctive, or it has a different stem formation, as discussed by Peyrot (2013: 513–514) and listed above. These apparent exceptions become understandable, if the type of analogy assumed by Peyrot was indeed the driving force behind the creation of the subjunctive types with fixed first-syllable accent. The accent would thus have become just one of the many ways in which stems are distinguished from one another in Tocharian B, as is also its synchronic function (Peyrot 2013: 511–512).

5.3.5 The accent in the causative present-subjunctive [9] and preterite [2]

The Tocharian B presents of class [9] are formed with the suffix *-sk-* and come in two types: causative and non-causative. The causative type has a stable first-syllable accent, even though all forms are longer than two syllables; the non-causative has the usual second-syllable accentuation. The causative present [9] furthermore functions as the subjunctive as well: it is a present-subjunctive. It is combined with a preterite of class [2], which also has a stable first-syllable accent. The causative preterite [2] is furthermore characterized by a stable *a*-grade and initial palatalization. These paradigms are illustrated in Table 5.27. In general, on the *sk*-present [9], see Krause & Thomas (1960: 209–213) and Malzahn (2010: 473–495). On the preterite [2], see Krause & Thomas (1960: 244–247) and Malzahn (2010: 170–189).

Table 5.27: Examples paradigms of a non-causative present [9] with accompanying preterite, contrasted with the causative present-subjunctive [9] and preterite [2].

	yam- 'do' (non-causative)		*wətk-* 'command' (causative)	
	prs.[9]	prt.[1]	prs-sbj.[9]	prt.[2] (3sg. + suffix)
1sg.	*yamaskau*	*yamaṣṣawa**	*watkäskau*	*yātkawa*
	/yaməskaw/	/yaməṣṣawa/	/wətkəskaw/	/yátkawa/
2sg	*yamast*	*yamaṣṣasta*	*watkäst*	*yātkasta*
	/yaməst/	/yaməṣṣasta/	/wətkəst/	/yátkasta/
3sg.	*yamaṣṣän*	*yamaṣṣa*	*watkäṣṣäṃ*	*yātka, yātka-ne**
	/yaməṣṣən/	/yaməṣṣa/	/wətkəṣṣən/	/yátka, yátkane/
1pl.	*yamaskem**	*yamaṣṣam**	*watkäskem**	*yātkam*
2pl.	*yamaścer**	*yamaṣṣas**	*watkäścer-*	*yātkas*
3pl.	*yamaskeṃ*	*yamaṣṣare*	*watkäskeṃ**	*yātkare*

The preterite [2] of Tocharian B corresponds to a reduplicated preterite [2] in Tocharian A, e.g., *wotka-* from pre-TA **ẃawätkā-* corresponding to TB *yátka* in Table 5.27 above. The exact correspondence between the reduplicated forms of the Tocharian A preterite [2] and the unreduplicated forms of the Tocharian B preterite [2] is complicated, but due to their equivalence in the morphological system of the two languages, it is preferable to derive them from a common source, which was originally reduplicated as in Tocharian A (Malzahn 2010: 187–188). The first-syllable accent in Tocharian B can thus be attributed to a loss of the reduplication syllable in this type (Peyrot 2013: 490–491). Various accounts of the precise development of the Tocharian B preterite [2], with regards to its palatalization and how it lost its reduplication, can be found in Kim (2003; 2009: 38–41) and Malzahn (2010: 188–189).

The causative present-subjunctive [9] is not reduplicated in either Tocharian A or B, but it does have the same first-syllable accent as the corresponding preterite [2]. According to Malzahn, the word-initial accent in the causative present-subjunctives cannot be original, and "must have been transferred from another, more archaic type of present stem formation, [...]" (Malzahn 2010: 315–316). In particular, the source of the initial accent should be a type formed by adding present endings to reduplicated preterites. Peyrot (2013: 490–491) reconstructs a Proto-Tocharian stem shape **Cə-CəC-* for the causative present-subjunctives. The first syllable would regularly be lost by syncope in both Tocharian A and B, and because it was not a preterite formation, no analogical **Ca-*reduplication was (re-)introduced in Tocharian A.

Another notable feature of the present-subjunctives [9] is that they often have a *-ə-* before the *sk*-suffix, even if the root normally would be *a*-final; e.g., the causative present-subjunctive *wátkəsk-* derives the *a*-final non-causative *wətka-* 'be separated, decided'.

Since there is synchronically no way to turn the root-final *-a-* of the preterite stem (e.g., *yátka-*) into the *-ə-* found in the present-subjunctive (*wə́tkəsk-*), both have to be analysed as suffixes in this type of verbs (Peyrot 2013: 148–149). However, there are also several attestations of present-subjunctive [9] forms that do show a root final *-a-*, which must be considered an archaism (Malzahn 2010: 458–459; Malzahn 2011; see also Peyrot 2013: 488–489).

To explain the disappearance of expected root-final *-a* in the causative present-subjunctives [9] with the *sk*-suffix Peyrot departs from the attested Tocharian B initial accentuation. Based on the findings of Malzahn (2011), he derives the overwhelming presence of *-əsk-* forms derived from roots with original final *-a-* by way of a sound law that weakened *-a* whenever it followed the accent and stood before a full vowel in the ending. Thus, a form like **ánasken* of **ánask-* 'make breathe' would have regularly developed to **ánəsken*. This accounts for the fact that the suffix form **-aske-* is less common than **-aṣṣə-* in the data presented by Malzahn (Peyrot 2013: 488–489).

Jasanoff has an entirely different account for the first-syllable accent of both the causative present-subjunctive [9] and the preterite [2]. Instead, his "*yāmu*-rule" in combination with an analogical crossing of two different verb types should explain the Tocharian B situation, while the Tocharian A reduplicated preterite [2] would be a wholly different formation. Jasanoff derives the causative preterite [2] of Tocharian B from original lengthened grade forms, e.g., act.3sg. *śārsa* 'let know' from an earlier **kērsH-* (Jasanoff 2015: 94). Jasanoff's account for the initial accent in these forms is the same as that for the subjunctive [5]: a cross with an original *a*-less type. In this way, the regular accentuation of a root **prénkə-* 'reject', according to Jasanoff's "*yāmu*-rule", would have affected expected **kʸersá-* to undergo an analogical change to **kʸérsa-*, before the former was itself modified to **prénka-* with final *-a* on the basis of the latter.

	initial	"*yāmu*-rule"	analogy 1	analogy 2	*a*-umlaut
a-final	*śersa-*	*śersá-*	*śersá-*	>> *śérsa-*	*śársa-*
ə-final	*prénkə-*	*prénkə*	>> *prénka-*	*prénka-*	*pránka-*

Like in Jasanoff's account of the subjunctive [5], the necessary developments are not supported by the Tocharian data and rely on an unverifiable timing of the extension of final *-a-* and accent shift. The two steps of analogy assumed only seem to be motivated by the framework of Jasanoff's "*yāmu*-rule", and are not further explained, but since Jasanoff's "*yāmu*-rule itself is suspect (cf. the discussions in the previous subsections), this interpretation of the preterite [2] cannot be upheld. Furthermore, as mentioned above, the separation of the Tocharian A and B preterite [2] formations as necessitated by Jasanoff's scenario is undesirable based on the functional identity of the Tocharian A and B preterite [2] within the verbal system; this is argued in more detail by both

Malzahn (2010: 187–188) and Peyrot (2013: 490). An interpretation of the Tocharian B preterite [2] as a dereduplicated counterpart to the Tocharian A preterite [2] is thus preferable as a starting point, and this can also explain its first-syllable accent.

In Jasanoff's view, the initial accentuation of the causatives with the suffix *-əsk-* can also be explained with his "*yāmu*-rule" for those verbs that originally had no root-final *-a-*. When the suffix was generalized as *-əsk-*, even forms with original final *-a-* would have regularly acquired initial accent as well. The accentuation of zero-grade roots would be analogical (Jasanoff 2015: 93). The original situation in the present-subjunctive [9] is difficult to reconstruct with certainty, the existence of relic forms with *-ask-* (Malzahn 2011) show that the prevalence of *-əsk-* in the causative is a relatively more recent phenomenon, something which does not accord with Jasanoff's "*yāmu*-rule".

The causative present-subjunctive that accompanies the preterite [2] does not show any reduplication in either language, so that the presence of earlier present-subjunctive forms like **wəwátkəsk-*, whence TB caus. *wátkəsk-* 'command', cannot be confirmed and some caution is advised. However, a derivation of the Tocharian B initial accent in causatives from lost reduplication syllable remains the most likely account for the initial accent of both preterite [2] and present-subjunctive [9] causatives, since earlier reduplication is confirmed at least for one of these two classes, and they are very closely connected within the Tocharian verbal system. The accentuation of the causatives can thus be interpreted within the framework of a second-syllable accentuation deriving diachronically from a rightward accent shift without any further analogical accentual alterations.

5.3.6 The phonologization and morphologization of the accent

In the categories treated in the last few subsections, it is assumed that the Tocharian accent has developed from a phonologically regular starting point to become increasingly irregular and morphophonologically specified. The dominant pattern is that of first-syllable accent in disyllabic words and second-syllable accent in longer words, although several categories deviate from this norm in more or less systematic ways, often in combination with an analogical regularization in the accentuation of a paradigm. The question of why any analogical regularizations happened in the first place has not yet been adequately addressed. In this subsection, I will provide a short overview of likely causes.

I assume that the fixed first-syllable accent found in the middle presents [2] and [8], the great majority of sigmatic forms of the *s*-preterite [3], and a large number of subjunctives [1] and [5] resulted from analogical morphophonological rules that either disallowed accented middle endings (5.3.2), took the unsuffixed third person singular as the basis for the paradigm (5.3.3), or promoted the differentiation of subjunctive and preterite stem forms (5.3.4). None of these changes make sense from the simple starting

point of an original, regular phonological accentuation rule: first-syllable accent in disyllabic words, second-syllable accent in polysyllabic words. In principle, it should have been perfectly possible to maintain such a rule as long as the placement of the accent was phonologically regular. However, there were at least two categories that made a continued purely phonological status of the accent impossible: the causatives and, perhaps less significantly, Iranian loanwords.

In the causatives, it is assumed that the initial accent observed in Tocharian B was the result of a regular deletion of the original first syllable due to syncope (5.3.5). This is particularly likely to have affected the causative preterite [class 2]. Once this deletion had taken place, the accent of the causatives could not be explained by the general phonological rule anymore, and needed to be specified otherwise, i.e., morphophonologically. After this development the original phonologically regular accent assignment had become inadequate for this one verbal category, so that morphologization in other categories would have become possible, or even necessary, as well. Phonologically irregular initial accent was introduced in a minor way by loanwords from Iranian as well, as discussed further below in 5.4.6.

I think that this change would have opened the doors for much more far-reaching accentual developments and analogical morphophonological regularizations in a number of categories. The detachment of the accent from the phonological realm could allow for a differentiation between the stems of the subjunctive [5] and the preterite [1] and inhibit accentual movements in sigmatic forms of the *s*-preterite [3] on the basis of the initially-accented disyllabic third person singular forms like *preksa*.

5.4 The accent in other categories

Aside from the verbal categories with initial accent treated in the previous subsection, there are various other topics and categories in Tocharian B that should be briefly addressed due to their aberrant accentual behaviour or their involvement in ideas on the diachronic development of the accent. These are vowel contractions (5.4.1), nasal prefixes (5.4.2), kinship terms (5.4.3), secondary case forms (5.4.4), compounds (5.4.5), and, importantly, loanwords (5.4.6).

5.4.1 Vowel contractions and the accent in the preterite participle

The position of the accent was important for the contraction of original sequences such as **əwe* and **awe* to simple vowels in Tocharian B. In both cases, we observe a split development into two different reflexes, which can be predicted by the position of the respective sequences in the word. These types of contraction could thus provide additional information on the chronology and the diachronic development of the Tocharian accent.

Developments of pre-TB **əwe*

The sequence **-əwe-* shows a split development in Tocharian B, yielding both TB *-o-* and *-uwe-*. Both outcomes of **-əwe-* are commonly found in two classes of preterite participles, one type represented by *kekamu* with the m.obl.sg. *kekamoṣ*, and the other by *ltu* with the m.obl.sg. *ltuweṣ*; see Table 5.28. The developments of the ending of the different classes of preterite participles has been analysed by Þórhallsdóttir (1988) as the result of various contractions across the glide **-w-*, which was part of the participle suffix.

Table 5.28: Developments of **əwe* in Tocharian B.

development	examples	meaning
**əwe* > TB *o*	**pəweńə* > TB *poñ*	imp. of *weñ-* 'say'
	**kekəməweṣə* > TB *kekamoṣ*	prt.ptc.m.obl.sg. of *kəm-* 'come'
**əwe* > TB *uwe*	**təwe* > TB *tuwe*	pers.pron.2sg. 'you (sg.)'
	**lətəweṣə* > TB *ltuweṣ*	prt.ptc.m.obl.sg. of *lət-* 'go out'

The examples in Table 5.28 show that this sequence developed into **o* when **əwe* made up the original first two syllables of a multisyllabic word or the third and fourth syllable. In disyllabic words and in the second to third syllable, **əwe* was retained and became TB *uwe*. Thus, while **kekáməweṣə* became *kekamoṣ* with contraction, **lətáweṣə* became *ltuweṣ*. The latter development is identical to that of the 2sg. pronoun *tuwe* from **táwe*. The important example *poñ* from **pə-wéńə*, adduced in this context by Peyrot (2010: 72), shows the same development as *kekamoṣ* from *kekáməweṣə* and indicates that **-əwe-* and **-əwé-* developed in the same way. This can be easily understood if we assume a secondary stress every other syllable after the main stress, thus **kekáməwèṣə*. It is clear that the primary accent must have already been on second syllable wherever possible at the time that the contraction from **-əwe-* to **-o-* took place.

Þórhallsdóttir (1988) first argued that the *o* in preterite participles of the type *kekamoṣ* was the result of a contraction from *ˊCəweC* to *ˊCoC*, next to a lack of contraction in *CáweC* to account for the type exhibited by *ltuweṣ* (Þórhallsdóttir 1988: 190). Peyrot (2010) interprets the development from **əwe* to TB *o* differently, assuming syncope with a subsequent shift from **CweC* to **CoC*. Thus, **kekáməweṣə* would first have become **kekámweṣ*, and from there *kekámoṣ* (= TB *kekamoṣ*). Peyrot (2010: 72) considers the imperative TB *poñ* 'say!' *poñ*, via **pweń* from **pə-wéńńə*, to be in support of this development. The change from **CweC* to **CoC* needs to be specified to a closed syllable in order to account for the lack of the same development in examples like *tweye* 'dust' and *twere* 'door'.

There are a few counterexamples, however. For TB *śtwer* 'four (4)', Peyrot assumes that the *-we-* can have been introduced analogically (2010: 72 fn. 6). Since *śtwer* derives

from PIE **kʷetwores*, there should have been a final *-ə*, i.e., **śətwerə*. If **CweC* became *CoC* in closed syllables before the late apocope of *-ə*, TB *śtwer* would naturally have remained unaffected. However, in that case, *poñ* from **pəweńə* should not have undergone this change either. Additionally, analogical restoration would be needed in *malkwer* /málkwer/ 'milk' and *ārwer* /árwer/ 'ready' (ibid.). Peyrot assumes that these words derive from earlier **məlkəwer* and **arəwer* respectively, but then the initial accent is unexplained: such forms should have yielded classical TB ***mälkuwer*, ***aruwer*. Thus, *malkwer* and *ārwer*, in terms of their accentual structure, must derive directly from disyllabic PT **məlkwer* and **arwer*, contradicting a sound change from **CweC* to *CoC*.

In favour of a development from **CweC* to *CoC* is the verb 'take away', with in Tocharian B prs.[9] stem /sompə́-/ next to sbj.[5] /sámpa-/ and prt.[1] /sampá-/, and in Tocharian A prs.[6] *sumnā-* and sbj.[5] *sumā-*. The *o* in the Tocharian B present can be understood if it derives from **swempə-*, and the gemination in the preterite participle *sassāmpaṣ* can be understood with the Tocharian B change from *-sw-* to *-ss-*. On the reconstruction of this verb in Proto-Tocharian and the relationship between the forms in Tocharian A and B, see Peyrot (2013: 829 incl. fn. 918).

The development of the adjectives in TB *-ssu* (e.g., TB *śaulassu* 'life-possessing') also deserves to be mentioned in this context, with their m.obl.sg. in *-ssont*. The geminate *-ss-* implies an earlier cluster **-sw-*, so that the **w* appears to be needed twice, both for the geminate and for the vowel *-o-* in *-ssont*. The developments can be imagined in two ways, according to our conception of the development from **əwe* to **o* as a contraction or as a change from **CweC* to *CoC*. Both scenarios are illustrated in Table 5.29.

Table 5.29: Two potential developments of the adjective suffix *-ssu*.

nom. : obl.	→	→	→	TB
-su : *-səwentə*	*-su* : *-sontə*	*-su* : *-s*[*w*]*ontə*	*-su* : *-ssontə*	*-s*[*s*]*u* : *-ssont*
-su : *-səwentə*	*-su* : *-swentə*	*-su* : *-ssentə*	*-s*[*s*]*u* : *ss*[*w*]*entə*	*-ssu* : *-ssont*

The relative dating of the assimilation of **-sw-* to *-ss-* and the development from **əwe* to *o* is different in these two scenarios. Both require an equal number of analogical changes, so that neither is more parsimonious than the other. On the basis of the development in *malkwer*, *ārwer*, and *śtwer*, the contraction set up by Þórhallsdóttir (1988) seems to be more appropriate. The change from **CweC* to **CoC* in the present TB *sompə́-* 'take away' from **swempə-* would then seem to be a separate development. Alternatively, the sequence **-wer* could potentially be excluded from the theoretical development from **CweC* to **CoC*, although I cannot yet see a further motivation for this.

However, the details should be interpreted, the development of the sequence **-əwe-* to TB *o* can be linked to the place of the accent on the **e*, thus **-əwé-*. When the accent

was on the first vowel of the sequence, **-áwe-*, the result is uncontracted TB *-uwe-* instead. Since original **-əwe-* in oblique preterite participles of the type *kekamoṣ* show the development associated with the accentuation **-əwé-*, rather than **-áwe*, while the type *ltuweṣ* shows the development associated with the accentuation **-áwe-*, it is clear that the relevant changes took place when the normal Tocharian B accentuation had already become established.

Developments of pre-TB **awe* and **a.e*

The next type of vowel contraction is found in the two remaining classes of preterite participles, represented by *kälpau* with the oblique *kälpoṣ* and *papaikau* with the oblique *papaikaṣ*; see Table 5.30. In this case, the place of the accent at the time that the sequence **-awe-* contracted is not so easy to determine, even though it is clear that two different developments took place.

Table 5.30: Developments of **awe* and **a.e* in Tocharian B.

development	examples	meaning
**awe* > TB *o*	**kəlpaweṣə* > TB *kälpoṣ*	prt.ptc. of *kəlpa-* 'obtain'
	**kʷəryawer* > TB *karyor*	'trade, commerce'
**a.e* > TB *o*	**ana.elme* > TB *onolme*	'living being'
**awe* > TB *a*	**śawemane* > TB *śāmane*	'living'
	**papaykaweṣə* > TB *papaikaṣ*	prt.ptc. of *pəyk-* 'paint, write'

The difference between these two types of preterite participles formed to *a*-final roots has previously been regarded as the result of one being originally **å*-final instead, from PIE **eh₂* (Þórhallsdóttir 1988: 190ff; Pinault 2008: 598–599). This would theoretically account for the difference in the type *kälpoṣ* from **kəlpåweṣə* when considered alongside *papaikaṣ* from **papaykaweṣə* without reference to the accent. In the finite forms, the **å*-final type would have merged with the *a*-final type, leaving the preterite participle as the only remaining trace (Þórhallsdóttir 1988: 190ff; Pinault 2008: 598–599). However, Saito (2006) connected the contractions in the various classes of preterite participles with the place of the accent instead, and this hypothesis is elaborated by Peyrot (2010), with further reference to words beside the preterite participle formations. This interpretation provides a more appropriate explanation than the assumption of a different second-syllable vowel that is not otherwise observable.

The distribution between the two reflexes TB *o* and *a* can thus be understood with natural differences in accentuation based on the length of the forms, but it is difficult to date the developments relative to the establishment of normal Tocharian B accentuation or accent shift. This is because there are, as far as I am aware, no examples whose accent

can only be interpreted in one way, i.e., of the type *pəweńə* to *poñ* 'say!' in the case of **-əwe-* above; cf. Table 5.31 with both alternative interpretations.

Table 5.31: Two possible scenarios for the interaction of the accent and contractions of **awe*.

development if after accent shift	development if before accent shift
**áwe* > *o* **kəlpáweṣə* > TB *kälpoṣ*	**awè* > *o* **kálpaweṣə* > TB *kälpoṣ*
**awé* > *a* **śawémane* > TB *śāmane*	**áwe* > *a* **śáwemane* > TB *śāmane*
**awè* > *a* **papáykaweṣə* > TB *papaikaṣ*	**àwe* > *a* **pápaykàweṣə* > TB *papaikaṣ*

One reason to posit this contraction before accent shift is the accentuation of TB *karyor* 'trade, commerce', which has a first-syllable accent /kə́ryor/. This is most easily accounted for if it derives from **kʷə́ryor* already at the time of accent shift, so that the contraction should have taken place in **kʷə́ryawer* rather than in **kʷəryáwer*. The latter should have regularly become *käryor* /kəryór/, which is actually attested as a synchronic derivative from the same verbal root. If the contraction took place after accent shift, the initial accent of TB *karyor* must be secondary. Assuming such an analogical change is not altogether too expensive, since it only amounts to a single case.[63]

Peyrot has further argued that the *-w-* did not have any influence in these developments, because similar contractions of *-a.e-* are found without such an intervening glide. For instance, *ścmoññа* 'basis' can be derived from **ścəma-eńńa* and *onolme* 'being' from **ana-elme*. The fact that development of the sequence **-a.e-* in these words is the same as that of *-awe-* in preterite participles like **kəlpáweṣə* becoming *kälpoṣ* suggests that the **-w-* was of no importance for this particular sound law (Peyrot 2010: 72).

Similar contractions in imperatives

Some other instances of contraction without an intervening glide are found with the imperative prefix **pə-*, which is never accented itself (Winter 1977; Pinault 2008: 605–606). The accent in the imperative stays on the initial syllable (e.g., *purwar-me*, not ***purwār-me*), which is also in line with the idea that a lost prefixed syllable caused the word-initial accent of certain other verbal categories like the causative preterite [2].

[63] On the basis of twice attested *śamāne* (in THT 88 a5 and in PK DA M 507.37 & .36 a39) besides more common *śāmane*, Winter (1988: 218) considers the contraction to have taken place before the accent was fixed on the second syllable, which would accord with *karyor* 'trade, commerce'. However, it is difficult to exclude that the accent of *śamāne* was analogical, as its placement is according to the general second-syllable accentuation rule. On the other hand, *śāmane* may also be analogical, since the accent regularly falls before the suffix *-mane* in most verbs (e.g., *akemane* /akémane/ from *ak-* 'lead').

Table 5.32: Contractions in the imperative of vowel-initial verbs.

development	examples	meaning
**ə.a* > TB *o*	**pə-akse* > TB *pokse*	imp. of *aks-* 'announce'
**ə.e* > TB *e*	**pə-ersar* > TB *persar*	imp.2sg. of *er-* 'cause'
	**pə-enksat* > TB *peṅksat*	imp.2pl. of *enk-* 'take'

The main element of interest is the imperative *pokse* from *aks-* 'announce', where the initial *a* is changed to an *o*. Both verbs with initial *e* keep this *e* in the imperative appear to indicate that **ə.é* and **əwé* underwent separate developments, unlike the sequences **awe* and **a.e* discussed above. However, it is of course very much possible that the imperatives *persar* and *peṅksat* had their vowel restored by analogy, so that they are not particularly reliable and no firm conclusions can be drawn.

Contraction in the first syllable of preterite participles

Further simplifications occurred in sequences like **eyə*, **eẃə*, and **ewə*, where the second vowel was a schwa. These all became simple diphthongs, as illustrated in Table 5.33.

Table 5.33: Developments of the sequences **eyə*, **eẃə*, and **ewə* in Tocharian B.

development	examples	meaning
**eyə* > TB *ai*	**yeyətəwə* > TB *yaitu*	prt.ptc.m.nom.sg. of *yät-* 'decorate'
	**yeyəpəweṣə* > TB *yaipoṣ*	prt.ptc.m.obl.sg. of *yəp-* 'enter'
**eẃə* > TB *ai*	**ẃeẃəru* > TB *yairu*	prt.ptc.m.nom.sg. of *wər-* 'practise
**ewə* > TB *au*	**wewəsəwə* > TB *ausu*	prt.ptc.m.nom.sg. of *wəs-* 'wear'

The development from **yeyápəweṣə* to *yaipoṣ* is sometimes formulated as the result of a special syncope rule of accented /ə/ following a glide (e.g., Ringe 1989: 37). I think it could rather be seen as yet another type of contraction, whereby **-eyá-* developed via **e.í* to **éi* and eventual TB *ái*. Thus, two contractions would have occurred in **yeyápəweṣə* to yield TB *yaipoṣ*: **-eyá-* to **-éi-* and **-əwe-* to **-o-*. The other examples are the preterite participles *yaitu*, *yainmu*, *yairu*, *yailu*, *ausu*, *aultsu**, and *auṣu* (the last three with a development along the lines of **wewə-* > **wowə-* > **ow-* > **aw-*; cf. Ringe 1989). Unless the stem was analogically restored from the masculine nominative **pernewə*, the development of *pernauntsa* from **pernewəntˢa* implies that this development was independent of the accent, since **pernéwəntˢa* with **éwə* behaves like **wewásəwə* with **ewə́*.

The preterite participles of this type thus have initial accent, but are no longer reduplicated in the usual sense as the result of a development from disyllabic sequences to monosyllabic diphthongs. There is an additional group of preterite participles that also have initial accent, but do not show any trace of reduplication. The flagship example in Jasanoff's account of the Tocharian accent is of course TB *yāmu*, the preterite participle of *yam-* 'do', from which the name of Jasanoff's "*yāmu*-rule" derives. With a reconstruction of *yāmu* as deriving directly from **yaməwə*, an inhibited accent shift from **a* to **ə* would theoretically account for this accentuation. Especially when considered next to the participle type of *ltu* from **lətáwə*, with shift from **látəwə*, such an analysis seems appropriate on the surface. However, we have already treated a number of issues with Jasanoff's "*yāmu*-rule" in the previous subsections, and the accent of *yāmu* can certainly be understood in different ways as well.

First, it is possible that *yāmu* was reduplicated at an earlier stage, but lost its reduplication through sound development.[64] According to the Tocharian B rules of formation of preterite participles, preterites that have ablaut or a stable full grade form a reduplicated preterite. The verb *yam-* 'do' has a stable *a*-grade in all forms, so that the preterite participle should be reduplicated **yeyaməwə*. According to Peyrot, there is no other way to explain the lack of reduplication in *yāmu*, and also *yāku* from *yok-* 'drink', except by assuming it resulted in some way from a sound change that interacted with the initial *y-* (Peyrot 2013: 186). Winter additionally adduces *yāṣṣu* 'begged food', which has become detached from the verbal paradigm of *yask-* 'beg' and shows the same lack of reduplication as *yāmu* and *yāku* (Winter 1994b: 300–301). Other preterite participles of verbs with initial *y-* that do show the expected reduplication, like *yayātau* from *yata-* 'be able' and *yayāṣṣoṣ* from *yask-* 'beg' to which *yāṣṣu* 'begged food' is related, would then have to be secondary, in accordance with the usual pattern (Winter 1994b: 301).

The accentuation of vowel-initial preterite participles

There is another group of participles for which Jasanoff's "*yāmu*-rule" would work well, namely the vowel-initial participles *āklu, -oṣ* from *akl-* 'learn', *ākṣu, -oṣ* from *aks-* 'announce', *aiku, -oṣ* from *ayk-* 'know', *aipu, -oṣ* from *ayp-* 'covered', *ārskoṣ* from *arsk-* 'finish', *ālu* from *al-* 'keep away', *aukṣu* from *awks-* 'grow', *āsu* from *as-* 'dry', *eru* from *er-*, *-oṣ* 'cause', and *eṅku, -oṣ* from *enk-* 'take' (see Peyrot 2013: 720–726).[65] These all have

[64] Jasanoff dismisses this possibility because of the verb *yəya-* 'go along' remained disyllabic, preserving the first syllable *yə-* (Jasanoff 2015: 88 fn. 6). However, this verb was also accented on the first syllable, i.e., sbj.act.3sg. **yáyan* > TB *iyaṃ*, while a theoretical **yəyaməwə* or (more appropriate) **yəyaməwə* would have been accented on the second syllable. The comparison is thus uninformative.

[65] The only participle derived from a vowel-initial verb that does not appear to have initial accent, as far as I am aware, is *aunu* from *awn-* 'hit; begin', with m.pl. *aunūweṣ*, based on fragmentary

initial accent, which could theoretically be understood as a lack of shift from a full vowel to a following schwa, e.g., **áypəwə* > *aipu*, **énkəwə* > *eṅku*, etc. An alternative interpretation is that these vowel-initial roots were still reduplicated until after accent shift, so that, e.g., **e-enkəwə* regularly kept the accent on the root (so Peyrot 2010: 81). Alternatively, the accent assignment in these cases may have been analogical, based on an association between the full grade and root-accent in the preterite participle, illustrated in Table 5.34.

Table 5.34: The accentuation of preterite participles in Tocharian B.

prt.ptc.	phonology	preterite stem	interpretation
ltu	/lətə́w/	|lə^{cə}/$_{te}$-|	zero grade in prt. + accent on suffix
kälpau	/kəlpáw/	|kəlpá-|	zero grade in prt. + accent on suffix
peparku	/pepə́rkəw/	|prek$^{∅}$/$_{sa}$-|	full grade in prt. + accent on root
papaikau	/papáykaw/	|payká-|	full grade in prt. + accent on root
eṅku	/énkəw/	|énksa-|	full grade in prt. → accent on root
aipu	/áypəw/	|ayp$^{∅}$/$_{sa}$-|	full grade in prt. → accent on root
yáku	/yákəw/	|ya^{śə}/$_{ke}$-|	full grade in prt. → accent on root
yāmu	/yáməw/	|yaməśṣa-|$^{(a)}$	full grade in prt. → accent on root

(a) This preterite in Tocharian B is secondary, derived from the present *yaməsk-*, next to a more original the preterite [3] in Tocharian A. The preterite stem at the relevant point in time might thus have been \|yam$^{∅}$/$_{sa}$-\| instead.

Whether *yāmu*, *yāku*, *āklu*, *eṅku*, etc., were still reduplicated or not at the time of accent movement is thus difficult to argue, since they also adhere to the synchronic pattern whereby the accent of the preterite participle is predictable on the basis of the vowel grade in the preterite: if the preterite active has gradation or a stable full grade, the root is accented in the preterite participle. This corresponds closely to the presence or absence of reduplication (Peyrot 2013: 186), of which the accentual pattern is naturally the result. I see no reason why this clear distribution could not have caused an accentual regularization based more on root ablaut than on syllable count, especially since root ablaut appears to have become vitally important in the accentuation of the subjunctives as well (cf. 5.3.4).

aunū[*w*]*e*/// in THT1394bb.a3 (Peyrot 2013: 724 fn. 37). This would then belong to the same participle type as *ltu*, *-uweṣ*. If vowel-initial verbs have first-syllable accent due to earlier reduplication, the accent of *aunūweṣ* would remain unexplained, and if the first-syllable accent is due to association with the full grade, it would be the only preterite participle that was not affected. In both scenarios, the aberrant behaviour of *aunu* seems strange, so that the accentual behaviour of *aunū*[*w*]*e*///, if correctly interpreted as *aunūweṣ*, remains unexplained.

Summary and conclusion

Summarising the different types of contraction up to this point, it can be said that **əwé* (along with *əwè*) became TB *o*, while **áwe* remained essentially unaffected. These developments took place when the accent had already moved to its eventual Tocharian B position on the second syllable. The contractions of **ewə*, **ewə́* and **eyə* also took place after the general Tocharian B accentual pattern had already become established.

The contractions of **awe* to **a* and **o* are difficult to relate to the position of the accent with certainty. Only the first-syllable accent of TB *karyor* /kə́ryor/ 'trade, commerce' implies that the contraction from **awe* to TB *o* may have happened before accent shift. Whether the various contractions were shared with Tocharian A, and thus dates back to (pre-)Proto-Tocharian, is also difficult to reliably establish, as will be discussed further in 5.5.2 below.

5.4.2 Nasal prefixes and the accent

Apart from the imperative prefix **pə-*, there is also the nasal prefix in its many guises *e*(*n*)-, *a*(*n*)-, *o*(*n*)-, which mainly functions as a negative prefix or an intensifying prefix and is also used to form adverbs. Its vowel depends on the vowel in the following syllable: it is basically *e*-, which becomes umlauted to *a*- or *o*- by respectively an *a* or *o* in the following syllable. Although the nasal was always retained before a vowel, it often disappeared before a lexical base starting with a consonant. Before *p*- and *k*-, both allomorphs with and without a nasal are found. Hilmarsson (1991) claimed that the position of the accent in the lexical base played an important role in the preservation or loss of the *n*, so that this phenomenon needs to be briefly addressed.

The nasal of the prefix

Hilmarsson (1991) set up the following rule to explain the presence or absence of a nasal in the prefix depending on the accentuation of the base. If the accent fell on the first syllable of the root, the nasal was lost (e.g., TB *ekálymi* < **en-* + *kálʸmi*), while it was retained in those cases where the accent of the lexical base was one syllable removed from the nasal prefix (e.g., TB *emparkre* < **en-* + *pərkáre*).

However, an example like *emparkre* would first require an extra accent shift to the new second syllable (assumed by Hilmarsson 1991: 171), so that the position of the accent in the prefixed form cannot actually be observed directly in the way that Hilmarsson's theory would require. The type of accent shift implied by forms like *emparkre* is not seen elsewhere, and it would entail a retraction from a non-final syllable. As far as can be observed, the nasal formations themselves generally point to the accent being on the first syllable of the base, directly following the prefix, so that no difference in accentuation in these forms can be observed to correlate with the presence or absence of the nasal; cf. Table 5.35.

Table 5.35: Examples of words with the nasal prefixes with and without a preserved nasal. The final column indicates whether the presence of the nasal accords with Hilmarsson's rule.

Examples	Meaning	Base	Hilmarsson
apākärtse	'manifest, apparent'	*pakartse* /pakə́rtˢe/ '± obvious'	NO
apākri	'clearly, evidently'?	*pākre* /pákre/ 'visible, exposed'	YES
aplāc	'in conversation'	*plāc* /plácə/ obl.sg. of *plāce* 'talk'	YES
eprete	'resolute, steadfast'	*prete* /préte/ '?'	YES
emparkre	'wide(ly)'	*pärkare* /pərkə́re/	NO
empele	'terrible, horrible'	*pele* /péle/ 'law'	NO

Several examples here are as Hilmarsson's rule would predict, but there are also contradictions. There is no indication that, for example, *pele* 'law' and *prete* '?' were accented differently, in such a way as to produce *empele* 'terrible, horrible, awful' with a nasal and *eprete* 'resolute, steadfast' without a nasal. Furthermore, it is not obvious that *emparkre* /empə́rkre/ 'wide(ly)' should be derived from synchronic *pärkare* /pərkə́re/ with second-syllable accent, rather than from **empə́rkre* directly, and the nasal in this word seems to be in opposition to the lack of a nasal in *apākärtse* next to *pakartse* /pakə́rtse/, also with second-syllable accent.

Malzahn (2010: 269-273) also briefly addressed Hilmarsson's conclusions about the presence or absence of the nasal for the privative formations, and noted that that the attested accentuations of other subjunctives do not accord with Hilmarsson's distribution. The assumption that the privatives that do not adhere to the pattern are based on earlier versions of the subjunctive stems with different accentuations is circular. Table 5.36 and Table 5.37 show privatives with and without a nasal in the prefix together with the accompanying subjunctive stems and their accentuation.

Table 5.36: Privatives with a nasal in the prefix, predicted by Hilmarsson to be derived from stems with second-syllable accent.

privative	base	sbj. stem	diagnostic forms
aṅklautkatte	*klawtka-* 'turn'	|kláwtka-| [5]	sbj.ger. *klautkalle*
amplākätte	*plak-* 'agree'	|plakə-|	—
eṅkälpatte (arch.)	*kəlpa-* 'obtain'	|kəlpa-|* [5][(a)]	—

eṅkärstātte (arch.)	*krəst-* 'cut off'	|krə́sta-| [5]	opt.mid.1sg. *karstoymar* opt.mid.3sg. *karstoytär* inf. *karstatsi*
eṅklyauṣäcce	*klyaws-* 'hear'	|kĺawṣə́-| [2]	sbj.vn. *klyauṣalñe*
empakwätte	*pəkʷ-* 'rely on'	|pəkʷə́-| [1]	sbj.vn. *pkwalñe*
empalkaitte	*pəlka-* 'see'	|pə́lka-| [5]	sbj.act.1pl. *palkam* sbj.vn. *palkalñe* inf. *palkatsi*

(a) The synchronic TB subjunctive stem of *kəlpa-* is the subjunctive [6] *kəlla-*, which derives from an erstwhile nasal present [6], apparently replacing the stem that was used for the basis of *eṅkälpatte* (Hilmarsson 1991: 69–71).

Of the examples of privatives with a preserved nasal in the prefix, *eṅklyauṣäcce* and *empakwätte* are derived from stems without first-syllable accent, so that they would be regular according to Hilmarsson's rule. On the other hand, *aṅklautkatte*, *eṅkärstātte* (arch.) and *empalkaitte* are derived from stems with first-syllable accent, so that they should have lost the nasal from the prefix according to Hilmarsson's rule. The accentuation of the underlying stems of *amplākätte* and *eṅkälpatte* cannot strictly be determined.

Table 5.37: Privatives without a nasal in the prefix, predicted by Hilmarsson to be derived from stems with first-syllable accent.

Privative	Base	sbj. stem	Diagnostic forms
akākatte	*kaka-* 'call'	|káka-| [5][(a)]	sbj.mid.3sg. *kākatär* opt.mid.1sg. *kākoymar* sbj.vn. *kākalñe* inf. *kākatsi*
akautacce	*kawta-* 'split'	|káwta-| [5]	sbj.mid.3sg. *kautatär* sbj.vn. *kautalñe* inf. *kautatsi*
akraupatte	*krawpa-* 'gather'	|kráwpa-| [5]	sbj.mid.1sg. *kraupamar* sbj.mid.3sg. *kraupatär* sbj.mid.3pl. *kraupantär* sbj.ger. *kraupalle* sbj.vn. *kraupalñe* inf. *kraupatsi*

Privative	Base	sbj. stem	Diagnostic forms
apāṣṣätte	*pask-* 'guard'	|pa$^{ṣṣ\acute{ə}}$/$_{skə\acute{-}}$-| [2]	sbj.ger. *paṣṣalle* sbj.vn. *paṣṣalñe*
ākkārpacce (arch.)	*karpa-* 'descend'	|kárpa-| [5]	sbj.act.2sg. *kārpat* sbj.ger. *kārpalle* sbj.vn.gen.sg. *kārpalñentse* inf. *kārpassi*/*kārpatsi*
ekamätte	*kəm-* 'come'	|kəm-| [1]*	—
ekätkātte (arch.)	*kətka-* 'strew'	|kə́tka-| [5]	sbj.act.2sg. *kātkat* sbj.ger. *katkalyi* sbj.vn. *katkalñe* inf. *katkatsi*
ekältte (arch.)	*kəl-* 'bear'	|kəl-| [1]	—
ekwalatte	*k^{w}əla-* 'fail'	|k^{w}əlá-| [5]	sbj.mid.3sg.-pl. *k$_{u}$lätär-me* opt.mid.3sg. *k$_{u}$loytär* sbj.vn. *k$_{u}$lälñe* inf. *k$_{u}$lätsi*

(a) There is one attestation of a supposed sbj.mid.1sg. as *kakāmar* in PK AS 17C, which would seem to suggest second-syllable accent. However, this is probably a verbal noun derived from *kakāmau*, the preterite participle of the root *kama-*, suppletive from the verb *pər-* 'bring'; cf. the common absolutive *kakāmarmeṃ*.

Of the privatives without a nasal in the prefix, *akākatte*, *akautacce*, *akraupatte*, *ākārpacce* (arch.), and *ekätkātte* (arch.) are derived from stems with first-syllable accent, in accordance with Hilmarsson's rule. However, *apāṣṣatte* and *ekwalatte* are derived from stems with second-syllable accent. The accentuation of the stems from which *ekamätte* and *ekältte* (arch.) are derived is uncertain.

In terms of the accentuation of the privative itself, it is clear that they are all accented on the second syllable, as far as their accent can be determined; cf. the privatives in Table 5.36 and Table 5.37. This means that it is difficult to assume a deletion of the nasal in the privative formations themselves as the result of contrasting positions of the accent.

This also holds for privatives starting with other consonants or with vowels, as shown in Table 5.38.

Table 5.38: Further examples of privatives, consistently showing the accent on the first syllable of the stem.

Privative	Base	sbj. stem	Diagnostic forms
atākatte	*taka-* 'be'	|táka-| [5]	sbj.act.2sg. *tākat* sbj.act.1pl. *tākam* sbj.act.2pl. *tākacer* opt.act.2sg. *tākoyt* opt.act.2pl. *tākoycer*
atraikatte	*trəyka-* 'go astray'	|trə́yka-| [5]	sbj.vn. *trikalñe*
anākätte	*nak-* 'blame'	|nákə-| [1]	sbj.vn. *nākälyñe*
anāyätte	*ay-* 'give'	|ayə́-| [1]	sbj.act.1sg.-3sg. *ayu-ne*
anautacce	*nawta-* 'disappear'	|náwta-| [5]	sbj.act.3pl.-3sg. *nautan-ne* sbj.ger. *nautalle* sbj.vn. *nautalñe*
amāntatte	*mənta-* 'stir'	|mánta-| [5]	sbj.mid.3sg. *māntatär* sbj.ger. *māntalñe* inf. *māntatsi*
amaukacci	*mawka-* 'desist'	|máwka-| [5]	sbj.vn. *maukalñe*
ayāmätte	*yam-* 'do'	|yamə́-|	sbj.ger. *yamalle* sbj.vn. *yamalñe*
alālätte	*lal-* 'exert oneself'	|lalə-|	—
alaitacci	*ləyta-* 'fall down'	|láyta-| [5]	sbj.vn. *laitalñe*
awāskatte	*waska-* 'stir'	|wáska-|* [5]	—
awlāwatte	*wlawa-* 'control'	|wláwa-| [5]	sbj.mid.3sg. *wlāwatär* sbj.vn. *wlāwalñe*
aspāwatte	*spawa-* 'subside'	|spáwa-|* [5]	—
etaṅkätte	*tənk-* 'hinder'	|tə́nkə-| [1]	sbj.act.3sg. *teṅkäñ-c*
etreṅkätte	*trenk-* 'cling'	|trenkə-| [1]	—
eśuwacca	*śəwa-* 'eat'	|śəwə́-|	sbj.act.3pl.-3sg. *śwā-ñ* sbj.ger. *śwālle* inf. *śwātsi*

It is best to assume, with Adams (2013: 88) and *contra* Hilmarsson (1991), that the nasal-less allomorph originated in instances where certain consonant clusters were simplified, from where it could spread by analogy. Roots with an initial resonant like *l-* (e.g., *alālätte*) or *y-* (e.g., *ayāmätte*) or *w-* (e.g., *awāskatte*) are not found with a nasal, so that such forms could provide a point of origin for a nasal-less variant.

The nasal prefix, contraction and accentuation

The accentuation of the privatives remains the same in two cases where the prefix contracts with the first root syllable with the change **eyə* to *ai* as discussed in the previous subsection for preterite participles like *yainmu*. As with the participles, the accent stays on the resulting diphthong and does not move to the new second syllable, even if that is the accented syllable in other derivations from the subjunctive stem.

Table 5.39: Privatives showing the development from **eyə* to TB *ai*.

Privative	Base	sbj. stem	Diagnostic forms
ainmacce	*yənm-* 'achieve'	|yənmá-| [6]	sbj.ger. *yänmälle* inf. *yänmätsi*
airpäcce	*yərp-* 'observe'	—	none

Other formations with the nasal prefix show this type contraction as well, including the development from **ewə* to *au*, as seen in the examples in Table 5.40.

Table 5.40: Forms with a nasal prefix showing the development of **eyə* to TB *ai* and **ewə* to TB *au*.

Example	Meaning	Base
aikne	'duty'	*yakne* /yə́kne/ 'way'
aiksnar	'(all) together'	*yəksnar**, from *yəks-* 'grasp, enfold'
aurtse	'broad, wide'	*wartstse* /wə́rtˢtˢe/ 'broad, wide'
auspa	'truly, certainly'	*wəspa** cf. TA *wäṣpā* 'id.'

We already saw that this development from **eyə* and **ewə* to *ai* and *au* postdates the movement of the accent to the second syllable, and *aiksnar* '(all) together' furthermore illustrates that it did not interfere with epenthesis. Otherwise, the cluster **-ksn-* should have been broken up (cf. 5.2.2) resulting in ***aiksanar* /ayksə́nar/. Other forms with a cluster *CCR* do not show epenthesis either: we find *emparkre* rather than ***empärkare* and *eṅkatkre* rather than ***eṅkätkare*. This can be understood by assuming that the accent remained on first syllable of the root, which was the second syllable due to the prefix and thus not susceptible to accent shift.

Any potential phonetic epenthesis that may have occurred earlier was lost, because the schwa did not become accented with accent shift from the first to the second syllable. The reconstructions are thus **eyə́ksnarə* (cf. Hilmarsson 1991: 161–166), **empárkre*, and **enkátkre*, which may have become **eyáksənarə*, **empárkərə*, **enkátkərə* due to epenthesis but did not undergo accent shift and thus lost their schwa again in accordance with the deletion of unstressed schwa in open syllables. The development of

emparkre and *eṅkatkre* can thus be understood next to *pärkare* and *kätkare*, which did undergo accent shift after epenthesis from **párkre* and **kátkre* via **párkəre* and **kətkáre*, consequently retaining the newly stressed epenthetic vowel.

The nasal prefix and abnormal accentuation

There are two words with a nasal prefix that, rather unusually, have third-syllable accent: *eneṅkāññe* 'internal' and *eṣerñāna* 'sisterly ones'. Their accent is difficult to explain within the framework of the normal accentuation rules and is probably analogical. For *eneṅkāññe* this can be illustrated quite clearly. The adverb *eneṃ* 'inside, within', already containing the nasal prefix, was combined with the emphatic suffix *-ka* to form *eneṅka* /enénka/ (Adams 2013: 88). The accentual movement to the right may have become semi-regular in the process of word formation. It was naturally also found in other derivations that use the same adjective forming suffix *-ñña*, such as the semantically parallel derivation *pärnāññe* /pərnáńńe/ 'external' from *parna* /párna/ 'outside' (Adams 2013: 381–382). Not all derivations of this type inspire accentual changes, however, cf. *aknātsañña* 'ignorance' from *aknātse* 'foolish, stupid' (Adams 2013: 3). This points to a degree of flexibility with regards to the interplay of the accent and derivation in Tocharian B.

Brief conclusion

As a category, the words with nasal prefixes do not clash with the rules of accentuation discussed so far and can be easily understood within a framework of accent movement from the first to the second syllable. Examples like *emparkre* and *eṅkatkre* enrich our understanding of the accentuation of epenthetic vowels, since they show that epenthetic vowels did not attract the accent, and only became accented secondarily as the result of regular accent shift. When they did not get accented, they were lost again.

5.4.3 The accent in kinship terms

A few of the Tocharian kinship terms deserve special attention, since they do not adhere to the expected accentuation patterns, or show unexpected developments more generally. Firstly, the plural *pātärñ* to *pācer* 'father' should regularly have been accentuated on the second syllable, i.e., ***patarñ*. However, its initial accent can easily be analogical to the oblique singular *pātär* from **patər*. This form does not directly continue the Proto-Indo-European accusative **ph₂ter-m*, since that would have yielded ***pācär* instead, but it may be understood as a reflex of a remodelled accusative in early pre-PT **ph₂tr̥-m*. In this way, the "aberrant" accent of the oblique *pātär*, which prompted Malzahn (2010: 6–7) and partly also Jasanoff (2015: 87–88) to posit a limitation on accent shift from a full vowel to a schwa, can be understood without recourse to a change that

is so ill-equipped to explain the initial accent of epenthetic vowels and of several verbal categories, as discussed at various points above.

The parallel kinship term *tkācer* 'daughter', pl. *tkātärñ* /tkátərñ/ has its accent on the original second syllable from earlier **təkátərnʸə*, as expected. The plural *pātärñ* may thus also have been influenced by this form. Both *pācer* and *tkācer* have an alternative plural with an accent shift, namely *pacera* /pacéra/ and *tkacera* /tkacéra/ respectively. These plurals of kinship terms are all recent creations, however, and thus not reliable for the history of the accent (see Peyrot 2008: 112–114). They are not shared with Tocharian A, which has *pācri* and *ckācri* instead. The plural of TB *mācer* is once attested as *mācera* /mácera/, with an initial accent that cannot be understood except by accepting that it is a transparent creation of the nominative singular *mācer* in combination with the plural suffix *-a* without application of the accent rule. The alternative plural *mātärñ* is like *pātärñ* and *tkātärñ*.

The Tocharian word for 'sister' is unexpectedly short: TB *ṣer*, TA *ṣar* reconstructible as PT **sʸer(ə)*. This derives from the PIE noun **suésōr* with a complete loss of the first syllable. In the original disyllabic nominative **suésōr* this development is strange, as this would be expected to yield PT **sʸwʸəsor*, whence TB ***ṣasor* /ṣə́sor/, TA ***(ṣᵤ)sar*. Adams departs from **suesēr* with **-ēr* from the other kinship terms like **mh₂tēr* 'mother', **ph₂tēr* 'father', **dʰugh₂tēr* 'daughter' and **bʰreh₂tēr* 'brother' (Adams 2013: 724), though this should probably still regularly yield TB *ṣaṣer* /ṣə́ṣer/.

Ringe assumes an early syncope between two sibilants, irrespective of the accentuation, and takes the oblique stem **suesor-* as the basis, rather than **suesōr* or Adams's analogical **suesēr* (Ringe 1987: 263–265). In Ringe's formulation, this would be parallel to Winter's rule of /ə́/-deletion between two sibilants, which was rejected in the discussion in (5.3.3) as inadequate. However, if we indeed depart from forms like the old accusative **suesorm* (cf. Skt. *svásāram*) or pl. **suesores* (cf. Skt. *svásāraḥ*), the result is a trisyllabic form **ṣwə́serə*, which, with regular second-syllable accent may have produced **ṣérə* as the result of syncope and regressive assimilation in the initial cluster. A paradigm of the type nom.sg. **ṣəser/ṣəṣer/ṣəsor* : obl.sg. **ṣerə* : pl. **ṣerə* would have been quite irregular, so that an analogical change from the isolated nominative **ṣəser* (if remade to **suesor*) or **ṣəṣer* (if remade to **suesēr*) or **ṣəsor* (if from **suesōr*) to **ṣer* can be understood.

5.4.4 The accent in the secondary cases

Nouns normally show accent movement from the first to the second syllable when case endings are added, e.g., *lakle* /ləkle/ 'sorrow' in the genitive singular *läklentse* /ləklentˢe/ and the plural *läklenta* /ləklénta/. However, no accent shift is observed when the secondary (local) case suffixes are added; see Table 5.41. For example, the "classic" locative of TB *lakle* 'suffering' is *laklene* /lə́klene/ rather than expected ***läklene* /ləkléne/,

which is only found in archaic texts where ⟨ä⟩ can signify both /ə/ and /ə́/. Similarly, the comitative is *laklempa* /lə́klempa/ and the perlative *laklesa* /lə́klesa/, with stable first-syllable accentuation (e.g., Kölver 1965: 5). Only the ablative shows a preference for accent movement, though not entirely regularly (ibid.); cf. the paradigm of *āntse* /ántˢe/ 'shoulder' in Table 5.41.

Table 5.41: Two example paradigms showing the accentual behaviour in Tocharian B nominal inflection.

	lakle /lə́kle/ 'sorrow, pain'		*āntse* /ántˢe/ 'shoulder'	
	singular	plural	singular	plural
nom.	*lakle*	*läklenta*	*āntse*	*āntsi*
gen.	*läklentse*	*läklentaṃts*	*antsentse**	*antseṃts*
obl.	*lakle*	*läklenta*	*āntse*	*āntseṃ*
all.	*lakleśc**	*läklentaśc**	*āntseśc**	*āntseñśc**
loc.	*laklene*	*läklentane**	*āntsene*	*āntseṃne**
abl.	*läklemeṃ**	*läklentameṃ*	*āntsemeṃ*	*āntseṃmeṃ**
per.	*laklesa*	*läklentasa**	*āntsesa*	*āntsentsa*
com.	*laklempa*	*läklentampa**	*āntsempa**	*āntseṃmpa**

One interpretation of the lack of accentual movement is that the secondary case suffixes were still phonologically relatively independent (Carling 2000: 372; cf. 6.2.2.4). If it is indeed true that the secondary case endings were not yet properly fused with the noun at the point in time that the Tocharian standard accentuation on the second of three syllables was established, then the creation of the secondary cases should have taken place relatively late in the development of Tocharian.

However, I do not believe that this behaviour of the secondary cases is actually informative for either their age or the age of the accent itself. The secondary cases are based on the oblique in a synchronically transparent way, a disyllabic oblique regularly have first-syllable accent. The accentuation of *laklene* can thus simply have been remade from perhaps expected ***läklene* on the basis of the oblique *lakle*. Similarly, while the plural secondary cases of *lakle* all show the same non-initial accent as the oblique plural *läklenta*, those of *āntse* are accented as the plural oblique *āntseṃ*.

The analogical nature of the secondary cases is further supported by the secondary case forms of Proto-Tocharian schwa-final nouns like TB *ost* 'house' from PT **wostə*: the locative is *ostne* /óstne/ (or *osne* with a reduction in the cluster), rather than expected ***ostane* /ostáne/ as would be derived from PT **wostə* + **ne* by sound law. In comparison with verbal forms like prs.act.2sg-3sg. *aista-ne* /aystáne/ and prs.act.2sg-1sg. *nesta-ñ* /nestáñ/ (from **nestə-ñə*), there is no reason to suppose a syncope in a sequence like **-stənV*, so that *ostne* cannot regularly derive from an earlier **ostəne*. The apocope of the

final schwa itself is certainly too late to put before the proper creation of the secondary cases, so that a recreation of the locative based on the synchronic oblique *ost* seems probable.

The only secondary case where accent shift is regularly observed is the ablative in *-meṃ*, as in *läklemeṃ* /ləklémen/ and *ostameṃ* /ostámen/, which thus seems to hold a special status. The reason for this is unclear, as the etymology of the ablative ending *-meṃ* itself is obscure (cf. 6.2.2.2). The fact that it is a particular Tocharian B formation means that it is more likely to be a relatively recent creation than most of the other cases, which may have caused its aberrant behaviour. On the whole, I think that the unexpected accentual behaviour of the secondary cases does not provide reliable data that can be used for the reconstruction of either the development of the Tocharian B accent or the history and development of the secondary cases themselves as a category.

5.4.5 The accentuation of compounds

The accent in compounds is different from the normal accent. This is clear from examples like *astre-pälsko* /astrépəlsko/ 'having a pure spirit', a combination of *astare* /astə́re/ 'pure' and *palsko* /pə́lsko/ 'mind, spirit; thought'. The accent in the compound *astre-pälsko* is in the "wrong" place from the perspective of both individual words. The general tendency is for compounds to be accented on the final syllable of the first element (Marggraf 1970: 64ff.). In words that are usually disyllabic, this is equal to the second syllable that is accented in multisyllabic words as per the usual accentuation rules, e.g., *totkā-yärm* /totkáyərm/ 'of small measure', from *totka* /tótka/ 'few, little, small' and *yarm* /yə́rm/ 'measure, size'.

Compounds thus give the impression of an unretracted final accent on the first member in accordance with Marggraf's synchronic rules, but final accentuation can have been generalized from instances with a disyllabic first-membe, like *totkā-yärm*, to examples with a trisyllabic first member, like *astre-pälsko* and also *śtwarā-känte*, where the etymological third syllable is accented, i.e., as if from **kʸətwerá-* (see also Marggraf 1970: 76). The type here illustrated with *astre-pälsko* cannot be understood as regular. If derived from **ástre-pəlsko*, the developments observed in the base **ástre* to TB *astare* /astə́re/ should have yielded ***astare-pälsko* /astərepəlsko/ with both regular epenthesis and accent shift. The problem remains if one assumes a derivation from forms with an original accentuation as **astré* or as **astə́re*.

In some cases, a compound seems to preserve an otherwise lost final schwa, as in, e.g., *osta-ṣmeñca* /ostə́ṣmeñca/ from *ost* 'house', originally PT **wostə*. In others, a similar etymological schwa is lost without a trace, e.g., *ñem-kälywe* not ***ñema-kälywe*. The loss of schwa in the latter is ascribed by Marggraf to the structure of the onset of the second member, in this case, *CV-* (Marggraf 1970: 68). However, accented /ə́/ is not normally lost in classical Tocharian B even in open syllables, so that an original **ńemə́kəĺwe* should

have become ****ñema-kälywe***. There thus needs to be some other explanation for *ñem-kälywe*. Compounds like *ñem-kälywe* can be synchronically understood as a combination of *ñem* and *kalywe* /kə́ĺwe/.

I think that analogical pressure from the uncompounded words probably influenced the shape of the first member of these compounds in combination with a synchronic tendency to put the accent on the last syllable of the first member. Such a rule could easily be derived from compounds with a disyllabic first member. Since analogical accentuation of the first member of compounds is likely, the accent of these words cannot be used to determine the general historical development of the Tocharian accent. On Tocharian nominal compounds in general, see Bernhard (1958).

5.4.6 The accentuation of loanwords

A number of loanwords from other languages in Tocharian B provide additional indications for the prehistoric position and development of the Tocharian accent. One class of words, considered of BMAC-related origin, typically have second-syllable accentuation, e.g., *kercapo* /kercə́po/ 'donkey', *witsako* /wəytˢə́ko/ 'root' and *ṣecake* /ṣecə́ke/ 'lion' (Bernard 2023: 215–218, 222–227, 228–230). These words thus correspond to the general accentual pattern of Tocharian B.

On the other hand, Old Iranian and Khotanese loanwords tend to have initial accent, e.g., *ainake* /áynake/ 'common (vulgar); bad, evil', *ākteke* /ákteke/ 'wonderful, astonishing' from Old Steppe Iranian (Bernard 2023: 171–173), *twāṅkaro* /twánkaro/ 'ginger' from Khotanese (Dragoni 2023: 125–127), despite also being trisyllabic. Unlike the BMAC-related borrowings, these trisyllabic Iranian examples deviate from the general accentual pattern of Tocharian B. This implies that they were borrowed when Tocharian B accent assignment to the second syllable was no longer operative. In the framework of a progressive accent shift, this means that the borrowing took place after the accent shift.

Trisyllabic Iranian loanwords do contrast with disyllabic loanwords, which are actually integrated in the general accentual pattern observed in Tocharian B nouns. For example *tāno* /táno/ 'seed, grain', *parso* /pə́rso/ 'letter', from Proto-Khotanese-Tumshuqese (Dragoni 2023: 122, 138) or *pāke*/páke/ 'part, portion' and *śāte* /śáte/ 'rich' from Old Steppe Iranian (Bernard 2023: 41–43, 74–75) show accentual movement in nom.pl. *tanāñ* /tanáń/, obl.pl. *pärsonta* /pərsónta/, nom.pl. *śateñ* /śatéń/, gen.sg. *pakentse* /pakéntˢe/; and similarly, *cākkär* from Sanskrit *cakra-* shows accent movement in the gen.sg. *cakkarntse* /cakkə́rntˢe/ (Winter 1990: 382). According to Winter, this suggests that accent retraction was a recent phenomenon (Winter 1990: 382), from which it could theoretically be inferred that the accent shift took place very late, after the adoption of these loanwords. However, a more likely interpretation is that the prevalence of disyllabic words undergoing accent shifts in their inflection served as a

basis for its application to disyllabic loanwords, so that this phenomenon ultimately does not tell us anything about the history of the accent.

Especially the initially accented trisyllabic Old Iranian loanwords are informative, because they deviate from the standard accentual pattern in Tocharian B. This suggests that they may have entered the language after the shift to second-syllable accent had taken place, which, in turn, would imply that the period in which second-syllable accent was first established lies farther in the past than the earliest contact with Iranian, i.e., before Proto-Tocharian. The Tocharian A counterpart to TB *ainake* does pose a problem here: TA *enāk* has not undergone regular vowel weakening to ****enak*, so that a post-Proto-Tocharian origin for this word in Tocharian A appears to be required; see Bernard (2023: 171–173) for a discussion.

5.5 Tocharian A accentuation

The accent in Tocharian A is more difficult to determine, especially synchronically, since it is not marked in writing. However, there are certain sound changes that occurred in the prehistory of Tocharian A and give strong clues that, at some point in pre-TA, the accent fell on the first syllable. It is unclear whether this should be regarded as a secondary initial accentuation, or if it is a sign that Tocharian A never underwent a shift to the type of accent pattern as we see in Tocharian B. The main argument that has been used to equate early pre-TA accentuation with that of Tocharian B is the supposed more limited application of *a*-umlaut in Tocharian A. I discussed this in 2.5.5, and concluded that it cannot be interpreted as has been claimed.

5.5.1 Apocope, vowel weakening and syncope in Tocharian A

While the accent of Tocharian A cannot be deduced from the writing, there are three sound developments that give us indirect information on the accentuation in pre-Tocharian A. They are apocope, vowel weakening, and syncope. Apocope and vowel weakening imply a first-syllable accent, while syncope additionally shows that the schwa, written as *ä* in Tocharian A, had become incapable of bearing the accent at some point.

Apocope

Apocope affected all Proto-Tocharian word-final monophthongs in Tocharian A, which were completely lost (e.g., Winter 1994a: 401). Thus, TB *aknātsa* 'foolish, ignorant' corresponds to TA *āknats*, TB *keme* 'tooth' corresponds to TA *kam*, and TB *klyomo* 'noble' corresponds to TA *klyom*. Only final monophthongs that resulted from contraction of two syllables remained, specifically the prt.act.1sg. suffix of *ā*-final verbs TA *-ā* from pre-TA **-āwā* and the perlative suffix TA *-ā*, potentially from (generalized) pre-TA *-a.ā*

(Winter 1994a: 404). Since a word-final second syllable in disyllabic words was lost, the accent must logically have been on the first syllable.

This change also took place if the only internal vowel was a pre-TA **ä* (PT **ə*), as shown in examples like TA *śärs* from **śärsā* 'knew 3sg.', *wäs* from **ẃäsā* 'gold', *kus* from **kʷäsa* 'who', etc. If Tocharian A accent at the time of apocope was not on the *ä* in the first syllable but on the heavy vowel in the second syllable, a development from **śärsā́* to *śärs*, **ẃäsā́* to *wäs*, or **kʷäsá* to *kus* is needed, with the deletion of the accented vowel, which would be unnatural. Thus, the accent in these words was **śā́rsā*, **ẃā́sā*, **kʷā́sa* at the time of apocope (cf. Pronk 2009: 103 fn. 54). This is in line with the accentuation seen in TB *śarsa* /śə́rsa/ and TB *yasa* /yə́sa/, but not TB *kᵤse* /kʷsé/, whose syncope must consequently be a post-Proto-Tocharian innovation.

Vowel weakening

The sound change that confirms a general first-syllable accent in pre-TA even in words of more than two syllables, is known as vowel weakening (Kim 2007b; Peyrot 2013: 58), vowel balance (Krause & Thomas 1960: 45–47; Malzahn 8–10) or "syncope" (Winter 1994a). Tocharian A vowel weakening worked as follows: any pre-TA **ā* in the second syllable was reduced to **a* when preceded by a heavy vowel pre-TA **ā*, **a*, **e* or **o*. If the pre-TA **a* resulting from vowel weakening was also followed by a heavy vowel (after apocope, e.g., Kim 2007b), it was further reduced to **ä* and could be deleted in open syllables.

For example, PT **aknatˢa* 'foolish, ignorant' became TA *āknats* rather than ***āknāts* without weakening, but it did not develop further to ***ākänts* with full weakening due to the original final **-a-*. Full weakening did occur in the nom.pl. *ākntsāñ*, where the stem-final **-a-* was not apocopated due to the addition of the plural suffix *-ñ*. Since the vowel in the first syllable is never affected by these changes, while the vowel in the second syllable is reduced, it is commonly agreed upon that it was the first vowel that was accented when vowel weakening took place in pre-Tocharian A, at least when it was a heavy vowel (e.g., Malzahn 2010: 8–10).

Syncope

Finally, any pre-TA **ä* that stood in an open syllable was lost due to syncope. This syncope applied to pre-TA **ä* corresponding to both accented and unaccented *ə* in Tocharian B, in the first, the second or in any other syllable. Thus, the Tocharian A counterpart to TB *yasar* /yə́sar/ 'blood' is TA *ysār* 'id.', even though the original accentuation in pre-TA should also have been **yā́sār*, as per the apocope observed in **śā́rsā*, **ẃā́sā*, etc. (cf. above). This development implies that TA *ä* lost its accent to any surrounding full vowels; i.e., **yā́sār* > **yäsār* > *ysār*. The accent should logically have

remained on TA *ä* if it was the only vowel in the word, such as in *wäs* from **ẃā́sā* after apocope.

Conclusions

These vowel developments strongly suggest initial accentuation in the development of pre-Tocharian A after the Proto-Tocharian period (e.g., Malzahn 2010: 8–10). Since Tocharian B accentuation can be analysed as a result of shift from the first to the second syllable, especially on account of the accented epenthetic vowels and the lost second-syllable schwa from PIE **e* (5.2.5), it is theoretically possible that the pre-Tocharian A first-syllable accent indicated by the sound changes treated here also reflects Proto-Tocharian accentuation, and that the shift in Tocharian B only happened in pre-Tocharian B specifically. However, it cannot be excluded either that the accent of pre-Tocharian A represented a secondary development of first-syllable accentuation after a Proto-Tocharian accentuation in accordance with Tocharian B. Two further indications for the relationship between Tocharian A and B are treated in the next two subsections.

5.5.2 Vowel contractions in Tocharian A

Since contraction, or lack thereof, interacted with the place of the accent in Tocharian B, it is important for the relative chronology to take a look at similar contractions in Tocharian A. Unfortunately, analogy has caused a lot of regularizations (Ringe 1996: 155–157), cf. Table 5.42.

Table 5.42: A comparison of forms with contraction in Tocharian B and analogical remodelling in Tocharian A.

reconstruction	TB with contraction	TA with analogy
**tetemәweṣә*	*tetemoṣ* 'be born' prt.ptc.m.obl.sg.	*tatmuṣ*, cf. nom.sg. *tatmu*
**pernewentә*	*pernent* 'glorious' m.obl.sg.	*parnont*, cf. nom.sg. *parno*
**kәlpaweṣә*	*kälpoṣ* 'obtain' prt.ptc.m.obl.sg.	*kälpoṣ*, cf. nom.sg. *kälpo*
**kekәmәwer*	*kekamor* 'arrival'	*kakmur-äṣ*, cf. prt.ptc. *kakmu*

Tocharian A has thus removed all traces of contraction in the categories where it took place the most. The development of the imperative PT **pә-weñә* of *weñ-* 'say' to TA *peṃ* is also ambiguous. The vowel *e* can be the result of the palatalizing influence from the palatal nasal and derived from either pre-TA **poñ* or **pañ*, or the *e* could conceivably have been introduced analogically from other forms of the verb *weñ-*.

Two examples of the development of **awe* outside of the preterite participles are reflected in Tocharian A, and they happen to show two different reflexes, parallel to the split development of this sequence in Tocharian B; see Table 5.43.

Table 5.43: Developments of the sequence **awe* in Tocharian A.

Development	Example	Meaning	cf.
**awe* > TA *a*	**kʷəryawer* > TA *kuryar*	'trade, commerce'	TB *karyor*
**awe* > TA *ā*	**śawemane* > TA *śāmāṃ*	'living'	TB *śāmane*

The difference in the Tocharian A reflexes of **awe* in these words corresponds to the two different reflexes of **awe* in Tocharian B, which is most easily accounted for if the developments had taken place in Proto-Tocharian already. However, as discussed in 5.4.1, the simplifications of the sequence **awe* cannot strictly be related to the position of the accent. TB *karyor* /kə́ryor/ 'trade, commerce' with its first-syllable accent suggests that the contraction took place before accent shift to the second syllable, but analogy cannot be wholly excluded. TB *śāmane* /śámane/ is attested with another accentuation as TB *śamāne* /śamáne/ in two[66] cases, opposed to six[67] examples of TB *śāmane*. If *śamāne* reflects the more original form, it would, like TB *karyor* suggest contraction of **awe* before accent movement, but analogical accentuation of either *śamāne* or *śāmane* cannot be excluded. The vowel contractions that are shared between Tocharian A and B thus do not provide entirely reliable information about the position of the accent in Proto-Tocharian.

5.5.3 Indirect indications of pre-Tocharian A accent

It appears that none of the changes that interacted with the accent in Tocharian B can be securely established for Tocharian A. We are thus left to very indirect arguments, which are primarily based on Tocharian B accentual evidence. The accent of loanwords from Old Steppe Iranian may provide some indication (cf. 5.4.6). In Tocharian B, they have initial accent when trisyllabic, and thus should have been adopted after the accent shift had been completed. Otherwise, the initial accent should have shifted along with that of native words to land on the second syllable. Since a number of Old Steppe Iranian loanwords regularly correspond between Tocharian A and B in the same way as native Tocharian words, it is assumed that they were adopted in (pre-)Proto-Tocharian, rather than in the separate prehistories of pre-Tocharian A and pre-Tocharian B (Bernard 2023: 249–253). Since Old Steppe Iranian borrowings retain Old Steppe Iranian initial accent in Tocharian B, they probably entered the language after accent shift. These borrowings consequently imply that the accent shift took place in Proto-Tocharian already.

[66] In THT 88 a5, PK DA M 507.37 and .36 a39–40.

[67] In THT 85 b4, THT 235 a3, THT 541 a3, THT 1111 b4, THT 1193 and 2247 a5, PK AS 16.7 b2.

5.6 Conclusions on the accent

In this chapter on the Tocharian accent, I have reviewed the evidence regarding several phonological phenomena in Tocharian involving the accent, such as syncope and epenthesis, as well as the development the accentuation of several verbal categories such as subjunctive classes [1] and [5], and contractions found in the preterite participle and in other categories. I have attempted to integrate the various lines of evidence to come to an account of the development of the accent and a relative chronology of sound changes leading up to the attested situation in primarily Tocharian B, but also Tocharian A. An important assumption in my argumentation is that a non-existent syllable cannot have been accented, and thus epenthetic syllables will need to receive the accent by some mechanism. The default mechanisms for this should be either regular accent shift by sound law or analogical accent shift on the basis of other members of the same paradigm. Since words with epenthesis always have a stable accent on the epenthetic vowel, analogy can be ruled out in that category.

A prehistoric accent shift from the first to the second syllable is capable of bringing the accent to all epenthetic vowels that indeed show up as accented in Tocharian B. This implies an earlier first-syllable accent, which accords well with the early syncope of **ə* in open non-first syllables. Such a syncope would not have occurred had this **ə* been accented, since accented **ə* in open syllables remains in Tocharian B. Original first-syllable accent in combination with an accent shift to the second syllable if this was the non-final syllable can work with the various Tocharian B categories that have atypical accentuation, as detailed in (5.3) based on Peyrot (2013: 507–514) and Marggraf (1970: 21). An older stage of pre-Proto-Tocharian can thus be reconstructed with first-syllable accent.

I argue that it is at present impossible to determine with certainty whether the type of accent system of Tocharian B should also be reconstructed for Proto-Tocharian as well, contrary to previous assumptions (first by Cowgill 1967: 176–177). None of the attested sound changes are informative, and those that should be informative are unclear in Tocharian A and likely altered by analogy. Tocharian A only evidences an earlier word-initial accent, which may be secondary, but could in principle be more original and reflect the state of the accent system before the pre-Tocharian B accent shift. Most arguments for a reconstruction of Proto-Tocharian accentuation in the same way as found in Tocharian B are circumstantial. For instance, while the analogical changes connected to the accent that occurred in Tocharian B should require some time, and thus intuitively suggest a relatively early date for the establishment of the Tocharian B accent, that does not amount to hard evidence. The only relatively clear linguistic argument seems to me the initial accentuation of trisyllabic Old Steppe Iranian loanwords, which suggest that the Tocharian B accent shift had occurred when these

words were adopted. Since Tocharian A and B have to some extent the same loanwords that can be derived from Proto-Tocharian, Old Steppe Iranian contact, and thus the Tocharian B accentuation, can also be tentatively reconstructed for (pre-)Proto-Tocharian.

However, in a broader perspective, this can be regarded as secondary. The first-syllable accent that should be assumed for an earlier stage of pre-Proto-Tocharian on the basis of syncope and secondarily accented epenthetic vowels is the most interesting stage for the purpose of comparison with Uralic. Seeing as Proto-Uralic and Proto-Samoyed are reconstructed with stress on the first syllable (e.g., Janhunen 1982: 27; Sammallahti 1988: 480), this thus constitutes another phonological parallel between the two language groups. It has to be admitted that in itself this feature is not particularly telling, as stress-initial languages are common. However, changes in stress patterns are found in contact situations (see, e.g., Pronk 2018 on changes in the prosody of Slavic and Baltic languages due to contact), so that if this feature of pre-Proto-Tocharian is ascribed to contact, early Uralic seems to be an obvious source on account of the other features shared with that language family in particular. The initial accent reconstructed for Old Steppe Iranian by Bernard (2023: 171–173) cannot be the source of a pre-Proto-Tocharian initial accent, since the Tocharian accent had moved to the second syllable at the time of contact with Old Steppe Iranian (cf. 5.4.6). The accentual shift to earlier pre-Proto-Tocharian initial accent can thus be potentially attributed to a different contact language that predated Tocharian interactions with Old Steppe Iranian, plausibly early Uralic/Samoyed.