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DAVID I. OWEN

JEANETTE A. WAKIN

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TOCHARIAN HISTORICAL
PHONOLOGY & MORPHOLOGY

BY

DOUGLAS Q. ADAMS

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Zeus. This work is at bottom a collaborative effort. Studies have been fortunate in the calibre of scholars they have had. Virtually every page here will directly or indirectly be indebted to such giants as Sieg, Krause, Lane, Thomas, or others. On a more personal level I am indebted to Eric Havelock for having introduced me to the joys and challenges of linguistics, to the University of Idaho for its generous means of a sabbatical and "summer money" at crucial times in this project, and to Werner Winter, who provided a very helpful critique of an earlier version of this work. The actual editing of this work owes much to Barbara Heisel and Linda (of the University of Idaho) and Sandy Adler (of the University of Idaho) who have pushed three generations of software to their limits in editing the text, and to Rebecca Frei, whose expert eye has caught numerous typos and other problems that mine had not. Finally, my felicities still to be found are, of course, my own. Finally, I express my appreciation to my wife and family for their forbearance during a very long gestation period.

Douglas Q. Adams

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Chapter I

INTRODUCTION

1.0 DISCOVERY. The two Tocharian languages are known to us from the extensive remains of their literatures brought to light by Prussian, French, and Anglo-Indian archeological expeditions into Chinese Turkestan during the two decades immediately preceding World War I, expeditions that also discovered two hitherto unknown Iranian languages, Khotanese (Saka) and the Saka of Tumshuq, as well as extensive remains of Sogdian, Middle Parthian, and Middle Persian.¹ The Tocharian documents are datable, within broad but unspecifiable limits, to the sixth, seventh, and eighth centuries of our era. They owe their preservation largely to the Buddhist custom of taking a manuscript leaf or two to one of the many desert shrines in and around the inhabited areas of Central Asia where they were left as votive offerings and subsequently buried by the blowing sands. This particular mode of selection and preservation accounts for both the content of the documents—largely selections from Mahayana Buddhist scriptures, and their fragmentary nature—only very rarely do we have more than a single leaf from any particular manuscript.

1.1 IDENTIFICATION. It was clear from the beginning of their study in the West that scholars were dealing with two distinct yet closely related languages that were neither Iranian nor Turkish. One, subsequently called Tocharian A,² was found in documents emanating from the regions of Qarashahr (anciently Agni in Sanskrit or Yen-ch'i in Chinese) and Turfan in the center of Chinese Turkestan, and the other, Tocharian B,³ from those same areas as well as from areas further west, around Kucha.⁴ By 1907 enough material on these two languages had been collected for the turkologists F.W.K. Müller and A. von Le Coq to recognize the Indo-European character of the languages, and in 1908 E. Sieg and W. Siegling, basing

oneselves on a colophon to an Uighur (Turkish) document found in Turfan, identified one of these two languages, Tocharian A, with the language of the classical Tocharoi in Bactria.

From its first announcement, this identification has been a source of controversy. Though we do not have the space here to look at all of the arguments that have been adduced on one side of the question or another, it is appropriate to give a quick look at the major issues involved. The basis for Sieg and Siegling's identification is a very elaborate colophon to the Uighur version of a Buddhist work, *Maitreyasamiti* (Uighur: *Maitrisimit*). As read by F.W.K. Müller (1941:414) we have:

Nakridiṣ uluṣṭa toymiš Aryačintri bodisvt kṣi ačari
Āntkāḥ tilint(in) Toxrī tilinčā yaratmiṣ
Il-baliqda toymiš Prtanyarakṣit kṣi ačari
Toxrī tilintin Türk tilinčā ävirmiṣ
Maitri(si)mit nom bitig

"The sacred book *Maitreya-samiti* which the Bodhisattva guru ācārya Āryacandra, who was born in the country of Nagaradeśa, had composed in the Twry language out of the Indian language, and which the guru ācārya Prajñaraksita, who was born in Il-bliq, translated from the Twry language into the Turkish language."⁵

Sieg and Siegling based their identification on two assumptions: (1) that the Tocharian A version of the *Maitreya-samiti* is the Twry version of the Uighur colophon, and (2) that Twry is to be equated with the Greek *Tókharoi*, Sanskrit *Tukhāra*, of Bactria. The second assumption arises out of the phonetic similarity of *Tókharoi*/*Tukhāra* and Twry and out of the identification of Nagaradeśa with Jalalabad on the Kabul River which, though far from Tokharistan proper, was geographically close to the sphere of influence of the Tokharoi under the Kushana dynasty to make it possible for a native thereof to use Tocharian, *sensu stricto*, at least as a written language.

The first of Sieg and Siegling's assumptions is more likely on the face of it. Since the *Maitreya-samiti* is known only in Tocharian A in Uighur and since the Tocharian A colophons to this work make no mention, as the Uighur ones do, of having been translated from any other language,⁶ it requires no great logical leap to make

the Tocharian A version the exemplar for the Uighur one.⁷ As Lévi (1933:4-5) pointed out, however, there is nothing to stop one's supposing that both the Tocharian A and the Uighur versions are the translations of some, otherwise lost, original written in Twry. A judicious use of Ockham's Razor would, nonetheless, suggest that Lévi's is the less highly valued hypothesis. In any event Sieg and Siegling's first assumption is materially strengthened by W.B. Henning's (1949) rereading of the Uighur colophon given above so that *N'krydys* (*Nagaradeśa*) is corrected to *'knydys* or *Agnideśa*, the Sanskrit name for the Qarashahr region where Tocharian A texts are to be found. It is probable to suppose that a native of the kingdom of Agni would have composed his work in the language of the kingdom and thus the Tocharian A text of the *Maitreya-samiti* accurately reflects the correct state of affairs in not mentioning any translation. It is probable then, though not inescapable, that Twry represents the Uighur designation for the language we know as Tocharian A.⁸

Sieg and Siegling's second assumption, that Twry is the equivalent of Tokharoi, is, however, more tenuous, especially if Nagaradeśa is not to be corrected to Agnideśa. The Tokharoi of the classical historians, who have become the center of this latter-day controversy, emerge in Western history in the second century B.C. as they emigrated from Fergana, in what is now Russian Turkestan, into Bactria. In subsequent movements the Tokharoi spread into India, under the leadership of the Kushana dynasty, founding an empire which lasted until about the middle of the third century of our era. Under their greatest king, Kanishka (middle of the second century), the Kushana were instrumental in the spread of Buddhism from India into Central Asia.

These Tokharoi, who were to have such an impact on western Turkestan and northwestern India, were known to Chinese historians from an earlier period than the second century B.C. as the Yüeh-chih. In the latter half of the third century B.C. they were living as pastoral nomads in what was to become western Kansu between various Tibetan peoples on the south and the Hsiung-nu on the north. In the first half of the second century B.C. the latter decisively defeated the Yüeh-chih, forcing them to evacuate their native lands. They divided into two groups. The Lesser Yüeh-chih (Hsiao Yüeh-chih) took refuge among their Tibetan neighbors, those who lived along the southern rim of the Tarim Basin and whose language and customs they eventually adopted.⁹ The larger portion of the Yüeh-

the Great Yüeh-chih (Ta Yüeh-chih), fled west. After an attempt to settle in the Ili valley they finally came to dwell in Jiana.

Thus the history of the Yüeh-chih/Tokharoi is fairly well delimited some three hundred years on either side of the birth of Christ. In this history does not take us quite up to the time of our documents in the sixth through eighth centuries, it is clear that there was mass migration of Tokharoi back east from Tokharistan or north India, since any such movement would have been noted by these historians, who took a lively interest in eastern Central Asia. Therefore a simple equation of those who spoke the "Tocharian" languages and the Yüeh-chih/Tokharoi is impossible. As a result, investigators have followed Lévi's early lead in rejecting Siegling's identification though, paradoxically, the name has

Quite possibly, however, such a categorical rejection of the identification is too strong. It is true that we have no linguistic data that bear on the issue, as we have no early record of the speech of the Yüeh-chih/Tokharoi.¹⁰ Nonetheless, given the location of the Yüeh-chih before their defeat at the hands of the Hsiung-nu, it is impossible that they may have spoken a language closely related to those spoken further to the west in the Tarim Basin, at Kucha and the Turfan-Qarashahr area. If such was the case, the relationship between the pastoral and nomadic Yüeh-chih and the sedentary Sogdians and Agneans would be analogous to that obtaining in the Iranian world between the Saka, Sarmatians, and Scythians on the one hand and the Persians, Medes, etc., on the other. Such a suggestion is, of course, somewhat speculative but, if true, then it becomes easier to explain the Sanskrit-Tocharian B bilingual discussed by W. Thomas (1981) where the equation (Sanskrit) *arīkah* :: (Tocharian B) *kücaññe iṣṭhake* occurs. Thomas translates the Tocharian B as 'the istaka [the name of a Brahmanical deity] of Kuca.' If he is right, it would attest to at least a learned tradition among speakers of Tocharian B that they were rightly denominated by Sanskrit *tukhāra*. Taking the opposite view, however, is H. W. Bailey (1984), who argues that the *kücaññe* of this bilingual is the equivalent of "standard" Tocharian B *kücaññe*. If so, it could not be a derivative of the name Kucha which in the period in question is represented by *Kuci* with a derived adjective *kuciññe*/*kuśiññe*. Whether the

Tocharian languages were appropriately named by Sieg must remain undecided until we have stronger evidence either way.

1.2 INDO-EUROPEAN CONNECTIONS. The wider connections of the Tocharian languages within Indo-European are not altogether clear nor, particularly in the complete absence of any archaeological knowledge of Chinese Turkestan before the beginning of our era, do we have any notion of the route and/or process by which the ancestors of the Tocharian speakers arrived in Central Asia from the Indo-European homeland on the Pontic steppes. An overall look at the Tocharian lexicon shows that the highest percentage of correspondences lies with the Germanic languages, with Indo-Iranian (particularly with Indic), with Greek, and, to a lesser degree, with Baltic. The only other two groups to show significant numbers of special correspondences are Slavic and Latin.¹¹ A close relationship with the Germanic languages is also evidenced by the common extension of *n*-stems in both nouns and adjectives to form, originally at least, singulatives or definites (see section 5.1), an innovation shared in small part by Greek as well. Also with Greek, Tocharian shares an innovative genitive dual form (see section 5.8). These two morphological isoglosses are all the more striking in that they are the only major traits of morphology that Tocharian seems to share with any branch of Indo-European. The other morphological isoglosses that link Tocharian with any specific branch of Indo-European can apparently be considered common retentions of archaisms (e.g., the first person singular in **-wi* that Tocharian shares with Anatolian) or independent creations like the extension of the originally pronominal **-oy* of the nominative plural, which has been extended to *o*-stem nouns as it has, apparently independently, in Greek, Latin, and Celtic.

The relative lack of common isoglosses suggests that the pre-Tocharian dialect(s) of Proto-Indo-European may have occupied a somewhat isolated position vis-à-vis the other groups. This isolation, when coupled with the fact that Tocharian's closest relation within Indo-European seems to be Germanic, leads me to think that pre-Tocharian may originally have been a dialect located on the northwest of the Proto-Indo-European world adjacent to pre-Germanic (and, more distantly, to pre-Baltic). Later, as the Proto-Indo-European unity began to dissolve and the various Indo-European subgroups began their *Völkerwanderungen*, the pre-Tocharians must have moved both south and east, coming into par-

Indo-Iranians. The contact with the pre-Greeks may have occurred in the northern Balkans, while the association with the Indo-Iranians may have been the result of an eastward movement on the part of the pre-Tocharians across the Pontic steppes.¹²

Much later, after the Tocharians had arrived in their Central Asian home, contact with the Eastern Iranian languages was renewed, and there appears to have been fairly extensive linguistic influence on the Tocharian groups from various Iranian sources.¹³

1.3 THE SOCIO-LINGUISTIC MATRIX OF TOCHARIAN A AND B. The exact socio-linguistic relationship of Tocharian A and B has been a matter of some discussion. Ever since Lévi's discussion of certain caravan passes found near Kucha (1913), no one has doubted his conclusion that Tocharian B was the language of the Kingdom of Kucha.¹⁴ But while only documents written in Tocharian B are found in the vicinity of Kucha, further to the east, in the region of Qarashahr and Turfan, are found documents in both Tocharian A and Tocharian B. Nowhere are documents in Tocharian A found by themselves. Thus, while no one would doubt that Tocharian B was the spoken language of Kucha, both Lane (1966) and Winter (1963), from slightly different perspectives, have suggested that Tocharian A was no longer a spoken language but rather had become solely a liturgical language for a population that natively spoke some sort of Turkish and that, even as a liturgical language, it was in competition with Tocharian B.

Lane and Winter differ, however, in their assessment of the history of Tocharian A. Lane sees it as originally native to the area where the texts are found, while Winter suggests that, even as a liturgical language, it was an importation into the area where it was subsequently found.¹⁵

NOTES

1. While less centrally concerned with Turfan, Qarashahr, and Kucha, where the remains of Tocharian literature are to be found, Sir Aurel Stein's accounts of his expeditions in Central Asia (*Ancient Khotan, Desert Cathay*, etc.) are by far the most readable accounts of any of the expeditions, and certainly they are the most accessible to the English speaker.
2. Also called at various times East Tocharian, Agnean, or Turfanian.
3. Also sometimes known as West Tocharian or Kuchean.
4. In the Southwestern part of the Tarim Basin, in the ancient kingdom of Lou-lu or Kroraina, there are traces, in the form of loanwords and proper names, of another language closely related to Tocharian A and B (Burrow, 1935).
5. Translation from Henning (1949:160).
6. As opposed to being composed from materials originally available in Sanskrit.
7. The fact that the Tocharian A version is in the form of a drama and the Uighur one is not does not appear to me to weaken the equation significantly.
8. Sieg (1918) thought he had uncovered the native name for Tocharian A in the phrase *ārśi kāntu* (*ārśi* tongue) found in some Tocharian A texts. Bailey (1936) however, has demonstrated fairly conclusively that *ārśi kāntu* actually refers to Sanskrit, *ārśi* being a Tocharian A borrowing of some Prakrit form of the Sanskrit *ārya*. Thus no native term for Tocharian A is known.
9. Though they remained an identifiable political entity, the *hgar* (also written *mgar* or *sgar*), until at least the eighth century (Bailey, 1970 [1972]).
10. The "Tokhari" MS of the fourth century of our era described by F.W. Thomas (1944), which appears to be in some sort of Iranian language, might then be the product of the acculturated Tokharoi/Yüeh-chih who had long been living in an Iranian milieu, just as the Lesser Yüeh-chih had long since become acculturated Tibetans.
11. See Van Windekens, 1976:614-619. My own independent investigation of the etymologies of the various verbal roots found in Tocharian have led to a very comparable set of figures (see Adams, 1984:399-400).
12. If Winter's suggestion (1970:53-54) that Tocharian A *nātāk* 'lord,' *nāśi* 'lady' are related to Greek *ánaks* 'king' and *ánassa* 'queen' because they are borrowings from some non-Indo-European language should be correct, then borrowing might have taken place during this period of Tocharian-Greek contact in the Balkans.
13. A more detailed discussion of most of this material will be found in Adams, 1984. Henning (1978), in a fascinating but extremely improbable article, suggests that the central Asian Tocharians of the first millennium A.D. are the remnants of a vigorous Indo-European group that first appeared in history in the Near East around 2100 B.C.
14. In addition we have as written languages in Kucha: Buddhist Hybrid Sanskrit as the language of Buddhist or other intellectual works, and Karoshti Prakrit in certain kinds of administrative texts.

This, of course, is essentially the same position as that of Sieg and Siegling, who saw in Tocharian A an imported missionary language from Russian Turkestan. If Winter's hypothesis should turn out to be true, it would tend to explain the discrepancy in basic technical Buddhist vocabulary, noticed by Lane (1966), whereby Tocharian A's Buddhist terminology is more obviously Iranian in origin while Tocharian B's original Iranian vocabulary has been very largely replaced by vocabulary borrowed directly from Sanskrit.

Chapter II

WRITING AND PHONOLOGY

2.0 WRITING. Both Tocharian languages are normally written in a variety (the "slanting type") of the north Indian Brāhmī syllabary. There are, in addition, a couple of very fragmentary manuscripts with Manichaean content written in a variety of the Manichean alphabet (Gabain and Winter, 1958), but they are very much the exception.

Since the phonological system of the Tocharian languages was very different from that of Sanskrit, for which the Brāhmī syllabary had been developed, to use this syllabary for Tocharian required some modifications. Certain Sanskrit sounds were not to be found in the Tocharian languages and, as a result, the *akṣaras* (letters) representing them were either not found in Tocharian (save in relatively unassimilated loanwords, of which there were many) or were put to a different purpose. In this latter category are the *akṣaras* for Sanskrit *ṛ*, *ḷ*, and *dh*, which in Tocharian, except for obvious loanwords, represent *rā*, *lā*, and *tā*, respectively.

On the other hand, there were certain sounds in the Tocharian languages that had no counterpart in Sanskrit, and for these sounds new symbols had to be developed. The new, purely Tocharian, signs were *ā*, *kā*, *nā*, *pā*, *wa*, *śā*, *ṣā*, *sā*, *tṣa*, and *tsā*. The Sanskrit *anusvāra*, transcribed as *ṁ*, in Tocharian normally represented a syllable final nasal, not unlike the tilde did in medieval Latin.

Two final peculiarities must be mentioned. First, under certain circumstances an unstressed vowel in an open syllable might lose its syllabicity (the process appears limited to *i*, *u*, and *ā*). In such cases the Tocharian scribes used the combined *akṣara* customary for a consonant cluster which contained the initial consonant of the syllable in question as well as the consonant of the following syllable with the modifications indicating a particular vowel for *both* vowels. Thus

kusé/ 'who, which' was apparently pronounced [kwse] and written <ksy> which is transcribed as k_use. Secondly, in the Tocharian variety of this syllabary the signs for *na* and *ta* were poorly distinguished, as were, to a lesser extent, those for *ša* and *pa*. The potential confusion leads to some indeterminacy in the texts.

2.1 PHONEMICS/PHONETICS. The phonemic systems of the two Tocharian languages are nearly identical and relatively simple.

CONSONANTS

p	t	ts		c	k
		s	ṣ	ś	
m	n			ñ	
	l		r	ly	
w				y	

All of these consonants might appear either single or double, though double consonants were relatively rare in Tocharian A.

VOWELS

i	ä	u
e	a ¹	o
	ā	

DIPHTHONGS²

ew, ey	ow, oy
ay, aw	

The exact phonetics which lie behind these symbols is, of course, largely unknowable. For the vowels we can only point out that the Sanskrit use of these same symbols suggests that *a* might be nearly IPA [ə] and *ā* IPA a¹, leaving *ä* to be something like [i] (cf. Lane, 1948:300). With respect to the consonants, the major points to consider are the actual pronunciation of the obstruents, particularly the stops, and the pronunciation of /w/. The two issues are not unrelated.

As to the first question, there is some evidence that the stops were voiceless (and perhaps tense or long) in initial or final position, when geminate, and when before another obstruent (or perhaps when before any other consonant). Otherwise they may have been voiced (and/or lax or short). The evidence for voicelessness is the occasional doubling of these obstruents in word initial or final posi-

tion and the regular doubling of such an obstruent which is the first member of a cluster when it comes to stand between vowels, e.g., B *nätk-* 'to push, impel' whose present stem is *nättānk-*. Voicing in other positions is indicated by such spellings as *ñ* for *ñk* or the regular use of *g* for intervocalic /k/ (more rarely of *d* for intervocalic /t/) in the few documents written in the Manichaean script (Winter, 1965:210).²

The actual phonetics of /w/ are in question because of *w*'s occasional overlap with *p*, e.g., B *cpi* 'his' for the expected (and more usual) *cwi*, A *yāmpā* 'I made' for *yāmwā*, or A *swārtwlune* 'a turning' for *spārtwlune*, B *wawātsa* 'weaver' for *wapātsa*. Occasionally the underlying form has been restructured, e.g., B *wārw-* 'to incite' but A *wārp-*. The interchange is not random. It occurs only intervocalically and after consonants and before vowels—precisely those positions where stops appear to have been voiced. Perhaps /p/ was a voiced bilabial spirant [β] in such positions. Additional evidence for such a conclusion is provided by the fate of Sanskrit loanwords with *v*. Where they are not spelled with the Sanskrit *aksara* for *v* they may appear as either *p* or *w*, e.g., *aviś* ~ *awiś* (Sanskrit *avīci*). Apparently Sanskrit *v* was perceived as being somehow phonetically between Tocharian /p/ ([β]?) and /w/.

To add complexity to the issue, Sanskrit *v* when it became word final in Tocharian is spelled with *p*, e.g., AB *anāsrp* (Sanskrit *anāsrava*) or AB *yap* 'barley' (Sanskrit *yava*).

Taken altogether, these bits and pieces of evidence suggest the following allophonic distribution among the stop phonemes for both Tocharian languages.

	#	V	V	N
	#	C	V	
	C			
/p/	p [•]	β		b
/t/	t [•]	d(t?)		d
/k/	k [•]	g		g

Quite possibly all obstruents showed a similar pattern.

NOTES

As an underlying segment found only in Tocharian A (see section 3.17 for its appearance in Tocharian B).

Only in Tocharian B.

Winter goes too far in assuming a voiced continuant pronunciation. Had the Manichaean scribes heard [ɣ], the script they were familiar with would have provided them with a ɣ.

Chapter III

PHONOLOGICAL HISTORY

3.0 PROTO-INDO-EUROPEAN BACKGROUND. Phonological developments in Tocharian presuppose a Proto-Indo-European whose phonological inventory was composed of four classes of sounds (in order of decreasing sonority): vowels, resonants, "laryngeals," and obstruents. Of the purely vocalic phonemes there were:

e, ē o, ō
a, ā

Internal reconstruction suggests that most long vowels were secondary, being the result either of the lengthening of an original short vowel under certain conditions, e.g., in the nominative singular of nouns ending in a resonant (*pAtēr 'father' but the vocative singular *pAter with no lengthening), or of the contraction of an original short vowel and a laryngeal, e.g., the nouns, usually feminine, in *-ā- from earlier -eA-. Similarly, internal reconstruction suggests that *a, long or short, is more often than not the result of the "coloring" of an original *e by an adjacent laryngeal *A. An original *Ae gave *a while *eA, as we have seen, gave *ā¹. There remain, however, a certain number of words whose PIE *a does not seem to be the result of laryngeal coloring, e.g., PIE *sakro- [: Latin sacer 'sacred' and Tch. A sākār 'blessed']. In any case, later Proto-Indo-European, with the partial exception of those dialects ancestral to the Anatolian group, treated *e, ē, a, ā, o, and ō as unitary phonemes, whatever their origin or morphophonemic status. Lastly, on the purely phonetic level, it appears that complex consonant clusters were broken up by an anaptyctic vowel *e, the so-called "schwa secundum" (on this last point see Hoenigswald, 1960:134 and Polomé, 1965:29).

Proto-Indo-European had six resonants: **y, w, r, l, n,* and *m*, each with syllabic and non-syllabic allophones.² Even in Proto-Indo-European itself there is some evidence that the first two, **y* and **w*, were set apart from the others, since it appears that their syllabic allophones (**ī* and **ū*) could undergo morphological lengthening to **ī̄* and **ū̄* whereas the others could not. In any event, Tocharian is like all other branches of Indo-European in treating **ī* and **ū* as if they were full vowels and therefore unlike **r*, etc.

Like the resonants, Proto-Indo-European laryngeals had both syllabic and non-syllabic allophones, e.g., **E* and **Ē*. Since laryngeals were normally less sonorant than the resonants, combinations of laryngeal and resonant normally resulted in a syllabic resonant and a non-syllabic laryngeal, i.e., **[CRHC]* was pronounced as **[CRHC]* and **[CHRC]* was pronounced as **[CHRC]*. There were apparently four laryngeals: **A₁*, *A₂*, *E*, and *O*, whose phonetic properties are uncertain but which colored any adjacent full vowel (see footnote 1). Aside from this coloration of **e* and the lengthening of a preceding syllable, the consonantal allophones of the laryngeals left no trace in Tocharian; only the vocalic allophones remained.

The obstruent system of that variety of Proto-Indo-European which gave rise to Tocharian was composed of the following phonemic units:

p	t	ḱ	k	kʷ
(b)	d	ǵ	g	gʷ
bh	dh	ǵh	gh	ghʷ
	s			

There is a growing body of opinion (e.g., Hopper 1977 [1978]) that holds that Proto-Indo-European, rather than having the three series of voiceless stops, voiced stops, and voiced aspirates had a distinction between voiceless stops, glottalized stops (non-contrastive for voice), and voiced stops, respectively. This "revisionist" hypothesis has the advantage of being more natural typologically, but since the three series, whatever their exact Proto-Indo-European phonetics, had largely fallen together by Proto-Tocharian times into a single series of phonemically voiceless stops (see section 2.), it is not necessary for us to take sides.

Only Albanian offers unambiguous evidence for a three-way distinction among palatals (**ḱ*), plain velars (**k*), and labio-velars (**kʷ*)

(see Huld, 1984:139-40 and 145-147). While we must posit a Proto-Indo-European distinction between the palatals and plain velars on the basis of the Albanian evidence, we need not assume it to explain any developments in Tocharian, since the two series have fallen together everywhere. Missing from the above schema are the voiceless aspirated stops that Brugmann reconstructed. Their existence in Proto-Indo-European is most dubious and they have, in any case, left no separate trace in Tocharian.

3.1 CHANGES TO VOWELS. After the coalescence of a laryngeal with a preceding vowel, including **ī* and **ū* but not the syllabic allophones of the other resonants, very late Proto-Indo-European (or pre-Tocharian) had a system of syllabics composed of the following units:

i, ī	u, ū	
e, ē	o, ō	r, l, n, m
	a, ā	

In addition, any of the mid or low vowels could be combined with a following resonant (including **y* and *w*) to form a diphthong-like unit, e.g., **ey*, **aw*, **or*.

3.11 CHANGES TO SHORT VOWELS. The changes which had occurred to the Proto-Indo-European short vowels by the time of Proto-Tocharian created a completely different system of vowels.

3.111 PIE **i* and **e*. Proto-Indo-European **i* became **ā* (a central vowel certainly and probably high also) in early Proto-Tocharian under two conditions: (1) in the environment of a PIE **w*, and (2) in the environment of a PIE **s* (also before **ns*).³ Examples:

- (1) B *wate* [A *wāt*] 'second' from late PIE **dwitō-* [: Sanskrit *dvitā-* 'id.'], B *wase* 'poison' from PIE **wisó-* [: Sanskrit *viṣā-* 'id.'], or B *leswi* 'attacks of weakness' from PIE **losiwo-* [: Gothic *lasiws* 'id.' --for the etymology see Van Windekens, 1976:261].
- (2) B *laks* 'fish' from PIE **loḱsis* 'salmon' [: Lithuanian *lāšis* 'salmon'], the Tocharian A first person plural ending *-mās* from PIE **-mesi*, or B *āstām* 'heads' (acc. pl.) from PIE **akstins*.

Otherwise PIE **i* and **e* developed a palatal on-glide (like their long counterparts), **j* which remained distinct from the inherited PIE **y*.⁴

Thus we would have found **ji* and **je*. Subsequently both **ji* and **je* gave *jā*. In the attested Tocharian languages the **i* shows up as palatalization, where possible, of the preceding consonant (see section 3.44). Examples:

PIE **j* B *kaly*mi- 'direction' from PIE **k̑limen-*, B *kār*nā- 'to negotiate' from PIE **kw̑ri-n-eA-*, *lyam* 'lake' [A *lyām*] from PIE *lim̑* [Greek *limnē* 'pool of standing water, mere'] or *yam* 'I (will) go' [A *yām*] from an earlier **imi* with generalized zero-grade from the expected PIE *eymi* [Greek *eīmi* 'I will go']—see also section 4.32.

PIE **e* B *yak*we [A *yuk*] 'horse' from PIE **ek̑wos*, B *kāly*p̑tsi 'to steal' [Greek *kléptō* 'I steal'] from PIE **k̑lepye/o-*, B *kaly*we [A *klyu*] 'fame' [Greek *kléos* 'id.'] from PIE **k̑léwos*, or B *ñu*we [A *ñu*] 'new' from PIE **néwos*; in diphthongs we find B *ike* 'place, spot' from PIE **weyk̑os* [Gothic *weihs* 'town, spot'] or B *lyuk*e 'light' from PIE **lewkos* [Greek *leukós* 'brilliant']—for the fate of PIE **ey* and **ew* one should also see section 3.15.

Winter (p.c.) suggests that there is a further environment where PIE **i* and **e* did not merge; namely, where PIE **e* was in a (stressed?) monosyllable. In these cases the PTch outcome was **je*. Good examples are B *še* [A *ša-*] 'one' [Greek (m.) *heīs* from PIE **sem-s*] or B *śem* 'he went' from PIE **gwem-t* [Sanskrit *agan*].

3.112 PIE **u* and the Syllabic Resonants. In that variety of late Proto-Indo-European that gave rise to both Proto-Tocharian and Proto-Germanic, long and short syllabic resonants (for exceptions among the long resonants, see section 3.2) were resolved into **u* + the resonant, e.g., PIE **r̥* gave **ur*. In Proto-Tocharian this otherwise universal resolution was limited to non-initial position, since syllabic resonants when absolutely initial gave **o* + resonant (see below, section 3.13). This **u*, whether from the resolution of syllabic resonants or directly from earlier **u*, gave Proto-Tocharian **ā* or **wā*, the latter normally in initial position (when from PIE **u*) and erratically after PTch **k*. Examples:

PIE **u* B *tkā*cer [A *ckā*car with assimilation of initial *t-* to *c-*] 'daughter' from PIE **dhugAtēr*, B *tap*re [A *tpār*] 'high' from PIE **dhubro-*, B *rat*re [A *rtār*] 'red' from PIE **Erudhró-*, B *stāt*e [A *stāt*] 'fourth' from late PIE **kweturto-*. B *lak*le 'suffering' (noun) from PIE **luglo-* [Greek *leugaléos*

'wretched' or *lugrós* 'mournful' (cf. the similar nominalization in **pluk-lo-* > German *Flugel*), B *wāst*arye 'liver' from PIE **udstryo-* [Greek *hústros* 'gastér' Hesych.] or B *mārk*wac 'thigh' (acc. sg.) from PIE **mȓghuTen-* (cf. Van Windekens, 1976:290-291).

PIE **R* B *kānt*e [A *kānt*] 'hundred' from PIE **k̑ntóm*, B *tall*am 'he upholds' (earlier **tālnām*) from PIE **t̑ineA-* [Old Irish *tlenaid* 'takes away'], B *kānmā*sk- [A *kumnā*sk-] 'to come' from PIE **gw̑m-nA-s̑ke/o-*, *kursār* 'mile' (from earlier **kwārsār*) from PIE **k̑rsru-* [Latin *currus* 'wagon'], or A *kulmānt*s- 'reed' from PIE **k̑lAm-* [Greek *kálamos* 'id.' (which might better reflect **k̑lA-o-mo-*)].

3.113 PIE **o* and Initial Syllabic Resonants. Under most circumstances PIE **o*, including the **o* that results from the resolution of syllabic resonants in absolute initial position, becomes PTch **e*. The exact phonetics of PTch **e* can only be guessed at. Perhaps it was some sort of low front vowel. It is normally attested in Tocharian B as *e* and in Tocharian A as *a*. Examples:

PIE **o* B *ek* [A *ak*] 'eye' from PIE **Oe/ok̑ws* [Greek *ósse* 'the two eyes'], B *ple*we 'vessel, raft' from PIE **plówos* [Ionic *plóos* 'navigation' or Russian *plov* 'boat'], B *mes*ke [A *masāk*] 'knot, joint, etc.' from PIE **mósgo-* [Lithuanian *māzgas* 'knot'], or B *pet*so [A *pats*] 'husband' from PIE **póti-*. In diphthongal combinations we find such examples as B *tau*pe [A *top*] 'mine' [Lithuanian *daubà* 'ravine'] or B *skey*e [A *ske*] 'effort' from PIE **(s)kwoyo-* [Greek *poiéō* 'I make, do'].

PIE **#R-* B *e(n)-* [A *a(n)-*] 'un-' from PIE **ṛ-*, B *er*kent- [A *arkant-*] 'black' from PIE **ṛgwont-*, and probably, since zero-grade is expected in such forms, B *eršām* [A *arāš*] 'he evokes, produces' from PIE **ṛ-se/o-*.

Under two sets of circumstances, however, PIE **o* gave PTch **ā* rather than **e*: (1) before a word-final resonant when unstressed, and (2) before the PIE cluster **ks-*. Examples:

- (1) the third person singular (plural) ending of the middle, AB *-(n)tār* from PIE **(n)tor* (see section 4.22), B *su* 'this' (nom. sg. masc.) from PIE **so + u*;

- (2) B *laks* 'fish' from PIE **lok̑si-* [: Lithuanian *lāšis* 'salmon'] and perhaps B *kakse* (at B 197b4 and 5) 'pit of the stomach' if from PIE **kokso-* 'groin' [: Sanskrit *kákṣa-* 'groin, armpit'] (for the latter word, see Adams, 1985).

3.114 PIE **a*. Though examples are few, it appears that PIE **a* usually gave PTch **a*. When in absolute final position, however, or probably when non-initial before two obstruents (see section 3.2), it appeared as **ā*. Examples:

- (1) AB *āk-* 'to lead' from PIE **ag̑-* (**Aeḡ-*), B *akrūna* (A *ākrunt*) 'tears' from PIE **(d)akru-*, or A *sākār* 'blessed' from PIE **sakro-* [: Latin *sacer* 'sacred'];
- (2) with Proto-Tocharian **ā* we have the second person singular ending B *-t(o)* [A *-t*] from PIE **-ta* (**-tAe*).

3.115 Vocalic Laryngeals ("Schwa Primum"). When vocalic all PIE laryngeals gave PTch **ā* in word initial position and in open syllables. Otherwise they gave PTch **ā* (see section 3.2 for further discussion). Examples:

- (1) B *pācer* [A *pācar*] 'father' from PIE **pAtēr*, B *tkācer* [A *ckacar*] 'daughter' from PIE (*dhugAtēr*, or AB *tās-* 'to put' from PIE **dhE-se/o-*;
- (2) B *kānmaṣṣām* [A *kumnāṣ*] 'he comes' from PIE **gwm-nA-ske/o-* or B *ersna* 'form' (pl. tant.) from PIE **oresA* + *nā* (see section 5.311).

3.116 Schwa Secundum. Schwa Secundum always appears in Proto-Tocharian as *ā*. Since it is always in internal position in closed syllables, its Proto-Tocharian reflex does not allow it to be distinguished from **H* nor, for that matter, from PIE **u*. Example:

AB *kātnā-* 'to strew' from PIE **(s)kedneA-* [: Greek *skídnēmi* 'I scatter' (Van Windekens, 1963)].

3.12 CHANGES TO LONG VOWELS. The changes which affected the Proto-Indo-European long vowels in the development of Proto-Tocharian were fewer and generally less dramatic than those which affected their short counterparts.

3.121 PIE **ī* and **ē*. The front vowels **ī* and **ē* show the same addition of the palatal on-glide, i.e., to **i̯* and **e̯*, as do the short **i* and **e*.

Otherwise the only change was that of PIE **ē* to **ā* when in absolute final position (including those cases where PIE **ē* had come to stand in absolute final position after the loss of a Proto-Indo-European obstruent). Since this latter change occurred after the addition of the palatal on-glide, the actual result was a PTch *[i̯ā]*. Examples:

- PIE **ī* B *ṣim* 'roof' from PIE **sīm̑* (**siHm̑*) [: Sanskrit *sīmān-* 'extremity' (Van Windekens, 1976:455)], AB *riñ* 'cities' from PIE **wrīnes* (**wriHnes*) [: Thracian *bría* 'city'];
- PIE **ē* B *yente* [A *want*] 'wind' from PIE **wēnto-* (**weEnto-*) [: Latin *ventus*, Sanskrit *vāta-*], B *meñe* [A *mañ*] 'moon, month' from late PIE **mēnēn* (**meEnēn*);
- PIE **ē#* AB *mā* 'not' from PIE **mē* [: Greek *mē*],⁵ B *wat* 'or' (always unstressed, therefore /wāt/) from PIE **wē* + *tu*, the Tocharian B vocative ending in such nouns as *saswa* 'Lord!' (vs. nominative singular *saswe*)—this represents an old nominative singular in **-ē* relegated to the vocative (see section 5.9), or *ā*-preterites which show palatalization before the *-ā*, e.g., B *piññā* 'spanned' from PIE **pAnw-ē(t)*, or those in *-ṣṣa* from PIE **-sk-ē(t)* (see section 4.74).

3.122 PIE **ū*. PIE **ū* normally remains as such in Tocharian. Rarely, it may appear in Tocharian B as *o*. Examples:

- PIE **ū* B *akrūna* [A *ākrunt*] 'tears' from PIE **(d)akrū* (**(d)akruA*) + *nā*, B *no* [A *nu*] 'therefore' (see section 3.17).

3.123 PIE **ō* and **ā*. Proto-Indo-European **ō* became Proto-Tocharian **ū* in a final syllable when preceded or followed by a **w*. This change appears in isolation in the Tocharian A masculine *wu* 'two' from PIE **dwōw*, B *okt* [A *okāt*] 'eight' from PIE **oktōw*, and the nominative singular of the word 'dog,' AB *ku* from PIE **k̑(u)wō(n)* [: Greek *kúōn*]. More important morphologically than these isolated examples was the same change in the nominative masculine singular of the PIE perfect participle, AB *-u* from PIE **-wōs* (see section 5.621). When word final, PIE **ō* evidently became PTch **e*, e.g., the dual ending in Tocharian B, *-ne* from PIE **-noH* (see section 5.7) or, seen less directly, in the first person singular ending in Tocharian B, *-ew* (*-au*), where the regular ending **-wi* has been added to the phonologically regular outcome of the PIE thematic ending **-oH* (section 4.211).

Otherwise PIE *ō and *ā show complete merger in Proto-Tocharian. Both appear as (1) Proto-Tocharian *-o [AB -o] when in a final syllable immediately followed by an original nasal, or (2) elsewhere as Proto-Tocharian *ā [AB ā]. Examples:

- (1) B *śano* [A *śām*] 'wife' (acc. sg.) from late or dialectal PIE **gwenām* (*gweneAm*), B *somo* [A *som*] 'one' (fem. acc. sg.) from PIE **som(H)ām* (**som(H)eAm*), AB *po* 'all' (nom. sg.) from PIE **pants* [: Greek *pās* 'id.'], B *okso* 'ox' from PIE **ukwsōn* (the o-grade of the suffix is unexpected), and B *klyomo* [A *klyom*] 'noble' (nom. sg.) from **klewmõnt(s)*;
- (2) B *pāsk-* [A *pās-*] 'to guard, protect' from PIE **pā-ske/o-* (**peA-ske/o-*) [: Latin *pāscere* 'to feed, nourish, support'], B *nāsk-* 'to bathe oneself, swim' from PIE *(s)*nā-* (**(s)neA-*) [: Latin *nāre* 'to swim'], AB *lānt* 'king' (acc. sg.) from PIE **wlāntm* (**wleAntm*),⁶ B *āntse* [A *es*] 'shoulder' from PIE **ōmeso-* [: Greek *ōmos*, Latin *humerus* 'id.'], or B *aknātsa* [A *āknaṭs*] 'ignorant' from PIE **n-ġnōt-yo-* [: Greek *agnōtos* or Latin *ignōtus* 'unknown'].

Having said this, one must also admit that the development of PIE *ā is a matter of some controversy. All would appear to be agreed that PIE *ā in absolute final position must have produced PTch *ā—the evidence of B *sā* (the nominative singular of the demonstrative pronoun [: Greek (Attic) *hē*]) or feminine nominative singulars such as B *lāntsa* 'queen' (from PIE **yā*, earlier **yeA*) would seem decisive. However, as to its fate in internal position there is less unanimity—in large part because of the paucity of sure examples. On the basis of such forms as B *pāsk-* [A *pās-*] 'to protect,' AB *lānt-* 'king,' or *ā*-presents, subjunctives, and preterites which certainly seem to be the equivalent of similar formations in, say, Latin, Krause and Thomas (in part [1960:53]), Van Windekens (1976), and I assume that the development of PIE *ā was the same internally as well as finally, namely PTch *ā. In contrast, on the basis of such forms as B *procer* [A *prācar*] 'brother' and B *pokai* (acc. sg.) 'arm' [A *poke*], Winter (e.g., 1981) and Hilmarsson (1984) and others opt for (in my symbolism) a PTch *q [B o, A a]. (The o of *poke* would then be from an earlier *a by labial umlaut; the ā of B *mācer* [A *mācar*] would be analogical to B *pācer* [A *pācar*].) I think *procer* and *pokai* may be otherwise explained (cf. *infra*) while taking, for instance, the *ā*-presents, subjunctives, or preterites as coming from anything else

that PIE *ā (*eA) is very strained, but a conclusive answer to the question of the fate of PIE *ā has not been reached.

3.13 ROUNDING. Often enough, vowels that should otherwise be unrounded in Proto-Tocharian show up with a rounded reflex. Not always is the historical sequence as clear as it might be, but two tolerably transparent producing these rounded vowels are Mutual Rounding and Rounded Vowel Umlaut.

Mutual Rounding designates a process whereby an earlier Proto-Tocharian sequence *(C)ā(C)e- produces a later one of *(C)q(C)q- (B (C)o(C)o-, A (C)a(C)a-). Typical examples are B *onolme* 'person, creature' from earlier **ān-elme* (PTch **ān-* 'to breathe' from PIE **an-*) or the Class IV presents (see section 4.42) such as B *osotār* [A *asatār*] 'it dries up' from earlier **āsetār* (PIE **asotor* [: Latin *ārēre* 'to be dry']). The process was evidently an early one, since while it affected PIE *a and *ā, it did not affect *A, e.g., B *pācer* [A *pācar*] 'father' and *tkācer* [A *ckācar*] 'daughter' from PIE **pAtēr* and **dhugAtēr*.⁷

"Mutual Rounding" is an ad hoc designation and may be misleading as to the actual phonetic processes that were involved. Winter (p.c.), who believes the usual outcome of PIE *ā to have been PTch *o, would describe this phenomenon as one of progressive assimilation of a PTch *e to the preceding *o, e.g., **āsotor* > **osetār* > **osotār*. Against such an explanation is (1) the difficulty in assuming, for me at least, that the normal outcome of PIE *ā is PTch *o and (2) even if that should be so, the fact that Mutual Rounding occurs where PIE had *a (e.g., in the case on *onolme*) as well as where it had *ā. Admittedly one does not expect ā to "overround" to o in the environment of e and vice versa, but the process can be paralleled by the process in certain Norwegian and Swedish dialects whereby an Old Norse *lifa* 'to live' or *vera* 'to be' become *lávva* and *várra* respectively (Haugen, 1976:262-263). This process in Scandinavian does not appear to be any better understood historically than "Mutual Rounding" does in Tocharian, but they both appear to be examples of some sort of overcompensation.

The phonetics of Rounded Vowel Umlaut are clearer. It works to round unrounded vowels (i.e., PIE *ē) and, plausibly, to prevent originally rounded vowels from unrounding (i.e., PIE *u when a rounded vowel follows in the next syllable). Perhaps, given the present state of our knowledge, it would be best to assume that Rounded Vowel Umlaut acts simply as a condition on possible vowel sequences. The

reflexes of the various late Proto-Indo-European or early Proto-Tocharian vowels affected by Rounded Vowel Umlaut are given in the following chart:⁸

	Followed by Rounded Vowel	Otherwise
PIE ē	o	ē
PIE u	o	ä
PIE o	o	e

Examples of these rounded reflexes include AB *yok-* 'to drink' generalized from the first person singular **jēkwu* from PIE **ēgwwi*,⁹ B *soy* 'son' from PIE **sūyus* or **soyus* (see section 5.52), B *okso* 'ox' from PIE **ukwsōn*¹⁰, AB *ok(ä)t* 'eight' from earlier **ektu* (PIE **oktōw*), B *somo* 'one' (fem. acc. sg.) from PTch **semo* (PIE **som(H)ām*), or the singular subjunctive stems in B, *yop-* 'to enter,' *wotk-* 'to separate,' and *yom-* 'to reach' generalized from the first person singular PTch **yepū-*, etc.¹¹

Mutual Rounding and Back Vowel Umlaut together account for most of the "unexpected" rounded vowels one finds in Proto-Tocharian, but there remains a residue not so easily explained. Of those words whose etymology is fairly transparent we have most noticeably B *pokai* (acc.) [A *poke*] 'arm' from PIE **bhāghus* [: Greek *pēkhus* 'forearm'] and B *pošiya* [A *poši*] 'side' from PIE **pusiyā* [: Lithuanian *pūsė* 'half' (from 'one side')]. The labial environment may be a factor here with both words. Van Windekens sees the clusters *-lm-* and *-ly-* as other environments which cause PIE **o* to be reflected by PTch **o* (1976:19). His examples with *-lm-* may be otherwise explained: B *onolme* 'person' by Mutual Rounding, B *onkolmo* [A *onkalām*] 'elephant', B *kolmai* (acc.) [A *kolām*] 'ship' (from PIE **(s)kolmōn* [: OHG *scalm* 'navis']), and B *solme* [beside A *salu*] 'complete, whole' (if from PIE **solu-mo-* rather than **sol-mo-*) all by Back Vowel Umlaut. The one etymologically sure example with *-ly-* is B *olyi* (acc. sg.) [A *olyi*] 'boat' from PIE **oldiHen-* [: Lithuanian *aldija* 'bark', OCS *ladlji* 'boat'].¹² To assume, however, that *-ly-* is a rounding environment is, as Winter (p.c.) points out, a *lucus a non lucendo* argument. The source of *o* in this word remains mysterious.

3.14 RESULTANT PROTO-TOCHARIAN VOWEL SYSTEM. The vowel system of Proto-Tocharian that resulted from these changes and restructurings must have looked something like the following:

EARLY PROTO-TOCHARIAN VOWEL SYSTEM

ī [i]	ä	ū
ē [iē]	a	o
e	ā	q

The symbols chosen reflect, more or less, the etymological origins of the various vowels. It is obvious, however, that length, by itself, was not a distinguishing feature of the Proto-Tocharian vowel system while vowel height was. Very early during the course of Proto-Tocharian **a* and **ā* fell together as **ā*. That is to say that the vowel of PTch **pācer* 'father' or **pāke* 'portion' from PIE **pAtēr* and **bhagos* was no longer distinguished from that of PTch **pāsk-* 'to guard, protect' from PIE **peAske/o-*. Much later Tocharian B was to merge **ē* and **e* as /e/ and **o* and **q* as /o/ while Tocharian A kept **o* distinct from **q* but merged the latter with both **ē* and **e* as /a/.

3.15 RESTRUCTURING OF PROTO-INDO-EUROPEAN ABLAUT. Naturally these changes, particularly the more general ones, had an effect on the inherited Proto-Indo-European system of ablaut. Not only were the phonetic surface structures of the system greatly altered but also the system as a whole tended to lose its coherence. In roots of the (PIE) shape **TeRT*¹³ we would see then the following correspondences between Proto-Indo-European and Proto-Tocharian ablaut:

PIE	TRT	TeRT	ToRT	TēRT	TōRT
PTch	TāRT	TjāRT	TeRT	TjēRT	TāRT

Though phonetically much changed, the pattern was quite transparent. Much the same was true of roots of the (PIE) shape **TeT*:

PIE	TeT/TT/TeT	TeT	ToT	TēT	TōT
PTch	TāT/TT/TjāT	TjāT	TeT	TjēT	TāT

Obviously, of the various possibilities Proto-Indo-European offered in the zero-grade to such roots, PTch **TāT* was most in keeping with the pattern set by the **TeRT* roots and was, in fact, generalized.¹⁴

The situation was, however, not so clear with roots of the (PIE) shape **TewT*:

PIE	TuT	TewT	TowT	TēwT	TōwT
PTch	Tāt	TiāwT	TewT	TiēwT	TāwT

Here the expected phonological outcome of the zero-grade no longer "made sense" in terms of the rest of the system. The same sort of anomaly was true of roots with the (PIE) shape **TeyT*:

PIE	TiT	TeyT	ToyT	TēyT	TōyT
PTch	Tiāt	TiāyT	TeyT	TiēyT	TāyT

though in this instance the anomaly was of a different sort. In both these cases, where zero-grade forms remained in paradigmatic alternation with full-grade forms, they were rebuilt with the neological zero-grades **-āy-* or **-āw-* based on the proposition that the zero-grade was properly the (PIE) e-grade without the **-i-*.

Where zero-grade forms were not paradigmatically well integrated, they were not so rebuilt. Thus we have the neological zero-grade **lāwt-* [AB *lut-*] on the model of **ljāwt-* [AB *lyut-*] 'to drive (away)' or **lāwk-* [AB *luk-*] on the model of **ljāwk-* [AB *lyuk-*] 'to illuminate' but the paradigmatically independent AB *lā(n)t-* 'to go out' (from PIE **Elu(n)dh-*) or B *laktse* 'illuminating' (from PIE **luktyos*) originally of the same roots. Likewise, we have PTch **wāyk-* [AB *wik-*] 'to decrease' or **sāyk-* [B *sik-*] 'to step' and not **wāk-*, etc. (cf. *ike* 'place, locality' from PIE **weykōs* [: Gothic *weihs* 'town, spot,' gen. *weihsis*], etc.

While one cannot be too specific about the chronology of these phonological and analogical reshapings of Proto-Tocharian ablaut, it appears that all these changes occurred early on in the history of Proto-Tocharian. The non-paradigmatic original zero-grades from roots of the (PIE) shape **TewT* could be reanalyzed as zero-grades to **TeT* roots and new ablaut grades built accordingly. Thus AB *lāk-* 'to see' has a Proto-Tocharian past tense **ljēk-ā-* [B *lyāka*, A *lyāk*] which presupposes that Proto-Tocharian speakers, ignorant of the etymologically proper connection of **lāk-* with the rebuilt **lāwk-* 'to illuminate',¹⁵ considered it a normal zero-grade and formed the expected lengthened grade preterite from it.¹⁶

3.16. LATE PROTO-TOCHARIAN UMLAUT. Very late in the Proto-Tocharian period, when the Proto-Tocharian unity was already beginning to dissolve, two new phonological processes affected Tocharian vowels: (1) *ā*-umlaut (first described by Verner [1962a:

32-33] and subsequently refined by Cowgill [1967:176-179]), and (2) *o*-umlaut. Our dating of *ā*-umlaut, and by inference *o*-umlaut too, so late is assured because its affect was not quite the same in that part of Proto-Tocharian that was to become Tocharian B as it was in that portion that gave rise to Tocharian A.

As Cowgill has described it, *ā*-umlaut affects any PTch **e* (PIE **o*) by turning it into *-ā-* in Tocharian B when followed in the next syllable by any *-ā-*, and any UNSTRESSED PTch **e* becomes *-ā-* in Tocharian A under the same conditions. Neither Winter nor Cowgill specifically distinguishes PTch **ē* (PIE **ē*) from **e* (PIE **o*). However, such a distinction seems necessary as PTch **ē* becomes *-ā-* in both languages when another *-ā-* follows, regardless of stress—witness B *lyāka*: A *lyāk*, both from PTch **ljēkā*, etc. 17

As a further corollary it must be noticed that a following *-ā-* lowers a PTch **o* [B *-o-*: A *-o-*] to **q* [B *-o-*: A *-a-*], at least in that part of the Proto-Tocharian speech community ancestral to Tocharian A. (Since PTch **o* and **q* fell together in Tocharian B, it is impossible to tell whether this phenomenon was once to be found in the latter language as well.) The chief witness for this variety of *ā*-umlaut is the feminine plural of 'one' (i.e., 'some') A *šomaṃ* (earlier **šomō-nā* with secondary palatalization)—compare B *somona*. In addition, this hypothesis allows us to explain the difference between B *ost* (pl. *ostwa*) 'house' and A *wašt* (pl. *waštu*) 'id.'. The *-a-* of the Tocharian A forms must be a generalization of the PTch **q* expected in the plural.

Though relatively late in origin, the *-ā*-grade resulting from *ā*-umlaut in verbal paradigms was very common—statistically far more common in surface structures than the *-ē-* which underlay it. At least in Tocharian B, it was capable of being generalized beyond those forms where an *-ā-* followed in the next syllable, e.g., B *yās-* 'to boil, be excited' [A *yās-*] where the root *-ā-* appears not only in the past participle, *yayāsau*, where it is explicable as the result of *ā*-umlaut from an underlying *-e-*, but also in the derived causative, *yāsāṣṣāṃ*, where the *-ā-* appears without any conditioning factor.

Since it is doubtful that the palatalization which resulted from the absorption of **-i-* by a preceding consonant was felt any longer to be a part of the ablaut system by speakers of Tocharian, it is probable that synchronically for speakers of Tocharian B, at least, ablaut consisted of two major ablaut grades, *-ā* and *-ā-*, with two minor grades, *-e-* and *-o-*, occurring in specified (morpho-)phonological environments (e.g. preterites of Class III for *-e-* or presents of Class IV for

o-). At least three of these ablaut grades (-ā, -ā̄, and -e-) might combine with preceding palatalization which had been abstracted as a separate morphological process.

The second umlaut process which we can date to this late period of Proto-Tocharian is o-umlaut. This process affected a much smaller number of words than did ā-umlaut and left no lasting traces in the morphology of either language, so it is perhaps not surprising that it should have gone essentially undescribed. It affected any Proto-Tocharian *ū, *āw, or *e when it was followed in the next syllable by a PTch *o. Typical examples are B *ontsoytte* 'insatiable' (from earlier or underlying *en-soy-), B *klyomo* 'noble' from PTch **kljāwmo* (PIE **klew-mon-(t)*), B *šcono* 'hate' from PTch **stjāwno* (PIE **stewd-nōn* [: OCS *studū* 'cold, dishonor']), or perhaps the late PTch **mōkō* 'heap, pile' if from PIE **mūkōn* [: Hesychian *mūkōn* 'heap, pile' or Old English *mūga, mūha* 'heap (of grain)'] that lies behind both A *mokats* 'big' (from *massive) and B *mokoce* 'thumb'.

3.17 FURTHER DEVELOPMENTS IN TOCHARIAN B. Our Tocharian B remains show a vowel system not far removed from that we have reconstructed for Proto-Tocharian. Like Tocharian A, though independently, Tocharian B shows monophthongization of PTch *āw and *āy and their consequent merger with *ū and *ī. There was also some rearrangement among the mid and low vowels: Proto-Tocharian *ē and *e merged as /e/ while *o and *q both appear as /o/. The monophthongization of *āw and *āy tended to obscure the tidy Proto-Tocharian ablaut system, since the PIE series *ey and *ew no longer matched those in *eR, but the "damage" was minimal.

Other early changes were the usual, but not absolutely regular, change of Proto-Tocharian *u (but apparently not *āw) to -o- in the environment of resonants, e.g., *no* [A *nu*] 'now', or *tronk* [A *trunk*] 'hole, hollow' [: Latin *truncus* 'tree-trunk'] and the change of *āī (created in such morphological contexts as the imperfect or optative of verb stems ending in -ā-, see section 4.9) to -oy-, e.g., *tākoy* 'he would be' from an earlier **tākāī*.

Much later, and still not wholly completed by the time of our documents, are: (1) the loss of final *-ā or, when not lost, its shift to -o, e.g., *ynem(o)* 'we go' from PTch **jänemā* (as if from PIE **i-no-mes*); (2) the shift of *ā to /i/ in a labial environment, e.g., *piś* [A *pāñ*] 'honey' (from PIE **medhu*), (3) a similar shift of -ā- to -i- in a palatal environment, e.g., *clñcare* ~ *cāñcare*, and (4) the shift of *ey to /ay/, and of *ew/ow to -aw- before all consonants or before pause.

e.g., *skeye* 'effort' from PIE **skwōyos* [: Greek *poiéō* 'I make, do'] but *aise* 'force, energy' from PIE **oyso-*. The latter two changes show dialectal variation. The change of *ā to -i- in palatal environments is particularly frequent in the eastern (Sängim, Murtoq, etc.) dialect of Tocharian B, while the merger of preconsonantal diphthongs is particularly retarded in the western (Ming-ōi Qizil) dialect (see Winter, 1955).

Also retarded in the west of the Tocharian B speaking area is the strong allophonic differentiation of /ā/ and /ā̄/ seen in the "standard" Tocharian B of the central (Sorcuq) area. In the latter area, and also in the east, /ā/ when stressed is phonetically [a], otherwise it is [ā̄] (or zero in open syllables, see below) while /ā̄/ is [ā̄] only when stressed and [a] elsewhere. Clearly the general tendency in these dialects is towards lengthening of vowels under stress and towards their shortening when unstressed. This interpretation is borne out by the similar alternation of the graphic symbols <i> and <ī>, e.g., *pīle* 'wound' vs. *pilenta* 'wounds'. In general <u> and <ū> follow the same pattern, and we may suppose the /e/ and /o/ did also, though there were no symbols in the Indian-based alphabet to show such an alternation.

3.18 FURTHER DEVELOPMENTS IN TOCHARIAN A. The changes which took place between the time of Proto-Tocharian and our records of Tocharian A are much more extensive than they were in Tocharian B, though many individual changes are paralleled in some fashion in the latter language. For instance, Tocharian A also shows a major rearrangement of the Proto-Tocharian mid and low vowels, but the rearrangement follows a different pattern than in Tocharian B. In Tocharian A PTch *ē, *e, and *q all become -a- in Tocharian A, while PTch *o was left as -o-. Early too was the loss of all final vowels, e.g., A *kañ* [B *kene*] 'melody, tune' from PIE *ghwonos* [: OC *zvonū* 'sound', Albanian *zē* 'voice'], *onkalām* [B *onkolmo*] 'elephant', or *kāntu* [B *kantwa*] 'tongue' (acc.),¹⁸ but *pacri* 'father's' from PTch **pātrjāy*—compare Tocharian B *pātri* and the discussion in section 5.8.

After the loss of original final vowels, new ones were created by the general monophthongization of all inherited diphthongs before consonants or pause. Thus, as in Tocharian B, but independently, all PTch *āw and *āy are monophthongized, but so also are *ey, *āy, *oy, *ew, and *āw. Thus we find A *tre* [B *trey* ~ *traī*] 'three', *eş* [B *āyām*] 'he will give', *se* [B *soy*] 'son', *ekār* [B *aikare*] 'empty', *ko* [B *kew*] 'cow',

or *kot-* [B *kaut-*] 'to split'. This monophthongization rather greatly restructured the inherited Proto-Tocharian ablaut, e.g., *-u-* ~ *-o-* (PIE **ew* ~ **ow/ēw*) but *-āR-* ~ *-aR* (PIE **eR* ~ **oR/ēR*).

In addition, Tocharian A shows a wide variety of assimilatory phenomena. There is for instance Labial Umlaut, whereby an earlier **a* (PTch **e* or **ē*) appears as *-o-* in the neighborhood of a labial consonant, e.g., *ñom* [B *ñem*] 'name', *opaśśi* [B *epastyē*] 'experience', or *opşaly* [B *ekşalye*] 'period of action (of a Buddha)' but not in *maku* [B *mekwa*] 'fingernails'. Similar in many ways is the process whereby a Proto-Tocharian sequence of **ā/e(n)kw-* gives early Tocharian **ālaw(n)k* and thus *-u/o(n)k-*, e.g., *yuk* [B *yakwe*] 'horse', from PTch **iākwe* (PIE **ēkwos*) or *oñk* [B *eñkwe*] 'man' from PTch **enkwe* (PIE **ñkwos* 'mortal' [: Old Irish *ēc* 'death' from **ñku-* --Campanile, 1969:198]).¹⁹

Assimilation in a different direction is seen in the change of **a*, **ā*, and **o* to *-e-* before *y*, *ññ*, *ñc*, and *nts* or of **ā* to *-i-* in the same set of environments. Thus we have *weyem* 'astonishing, astonished' (PIE **dwoyonyo-*), *es* [B *āntse*] 'shoulder' (PIE **ōmeso-*), the third person plural verbal endings *-eñc* [B *-am*, *-em*], and *-iñc* [B *-ām*], or the genitive singular ending *-is* [B *-āntse*].²⁰

Dissimilation is seen in two places. The first we might call Progressive Rounded Vowel Dissimilation, and we find it in such words as *mokats* 'big' [cf. B *mokoce** 'thumb'], *orpañk* [B *orpoñk*] 'tribune', *oñkalām* [B *oñkolmo*] 'elephant', or *kuryar* [B *karyor*] 'trade, negotiation'. In these cases an original sequence of **u/ō--ō* has been dissimilated to **u/ō--ō* (or already to *u/ō--a*). The second process of dissimilation involves glides before homorganic vowels, e.g., **kawurş* [B *kauurşe*] 'bull' (from PIE **gʷow-wrşen-*) gave Tocharian A *kayurş*, **klayiş* 'he would fall' [B *klāy-*] gave A *klawiş*, and **skayiş* 'he would try' gave *skawiş*.

Superficially reminiscent of the phonetic interchange of [ä] ~ [a] and of [a] ~ [ā] in the central and eastern dialects of Tocharian B (see section 3.24) is the Tocharian A phenomenon Krause and Thomas (1960:45-47) call Vowel Balance. Tocharian A Vowel Balance is, however, not based on stress or its absence but rather on the interplay between "full" vowels (*ā*, *a*, *e*, *o*) and "short" vowels (*i*, *u*, *ā*). The phenomenon actually affects only *-ā-* and *-a-*. If an */ā/* occurs in a closed final syllable of a two-syllable word whose first syllable contains a full vowel, it becomes [a], e.g., *āknats* 'foolish' [B *āknātsa*], *skenas* 'he tries' (*/ske-nā-/*), *kotnaş* 'he splits' (*/kot-*

nā-/), or within a single paradigm, *kalkaş* 'he will go' vs. *kālkāc* 'you will go'. If an */ā/* or */a/* appears as the vowel of the second syllable of a three-syllable word whose first syllable contains a full vowel, it becomes [ä], which will disappear entirely in an open syllable (see section 3.26), e.g., nominative plural *ōnkālmāñ* 'elephants' (nom. sg. *ōnkālām*), *kākmū* [B *kakāmau*] 'brought', or *ākntsune* [B *aknātstsāññe*] 'foolishness'. However, if the syllable following the */ā/* or */a/* contains an *-ā-* or *-i-*, then both */ā/* and */a/* appear as [a] rather than [ä], e.g., *yatatār* 'he is capable' but *yatmār* 'I am capable' [B *yototār* and *yotomar*], or *tāka-ñi* [B *takā-ñi*]. To these rules there are fairly numerous exceptions based on analogies within a single paradigm, e.g., *eñtsmār* 'I grasp' beside analogical *eñtsāmār* or *pyāpyāñ* 'flowers' beside regular *lantsañ* 'queens'.

3.19 (PROTO-)TOCHARIAN *-ā-*. (Proto-)Tocharian *-ā-* has a definite now-you-see-it-now-you-don't quality. In both Tocharian A and B a synchronic description would include fully productive rules which delete an underlying */ā/* under certain conditions.²¹ In Tocharian B, */ā/*'s are deleted from unstressed open syllables.²² Tocharian A, on the other hand, shows deletion in any open syllable, regardless of stress. A synchronic description of either language, but particularly of Tocharian A, might show it as composed very largely of open syllables of the type *-Cā-*, e.g., A */şāpān/* 'sleep', which gives *şpām* (nom. sg.) but */şāpān/* + */ac/* which gives *şāpnac* (dat. sg.).

Earlier stages of Tocharian shared this tendency towards the loss of *-ā-*, though the loss was evidently not confined just to open syllables. Apparently *ā* could also be lost adjacent to a resonant even if the syllable was closed, e.g., B *şalye* [A *şālyp* 'butter grease' must be from PIE **selpos* [: Sanskrit *sarpis-* 'clarified butter' Albanian *gjalpē* 'butter', and especially the Hesychian *élpos* 'oil'] and so one must posit a development of **selpos* > **sālpe* > **şālpe* > **şlpe* > **şlype* > **şālype*.²³

The preceding example also illustrates another possibility for **ā-*: it may be the result of epenthesis. Almost any cluster of three or more consonants (whether the cluster arose through the loss of an earlier **ā* or not) was liable, it would appear, to being broken up at some time by a svarabhakti *-ā-*. For instance, we have PIE **swépno-* 'sleep' > **sāpne* > **şāpne* > **şpne* > **şpāne* [B *şpāne* A *şpām*] PIE **kléwos* 'fame' > **kljāwe* > **klyāwe* > **klywe* > **kālywe* [E *kalywe*, A *klyu*], PIE **krupyo-* 'common' [: Old English *hrēof* 'rude' **krāpye* > **krpye* > **kārpāye* [B *kārpiye*, A *kārpi*],²⁴ or PIE **rgw-*

nōn 'dark' > *erkmō > *orkmō > *orkāmō [B *orkamo*, A *orkām*]. The svarabhakti vowel could, as in these examples, attract the word stress and thus be retained even in an open syllable in Tocharian B. A Proto-Tocharian resonant was particularly likely to grow an -ā- before it, as in the preceding examples, or as is shown by the verbal formative (PIE) *-nā- ~*-ānā-, e.g., B *wārpānantār* 'they enjoy, partake of food, etc.' alternating with *wārpñāntār*. Just what were the conditions for: (1) the appearance of the epenthetic vowel, or (2) its attraction of the word stress I do not know.

There may well have been a period in Proto-Tocharian, or even later in the individual languages, in which -ā- was like *e muet* in certain contemporary French dialects, a purely automatic epenthetic vowel, or for that matter like schwa secundum in Proto-Indo-European itself. In any case, the presence of -ā- in either Tocharian language is no guarantee of the position of a Proto-Indo-European syllabic.

Finally, with regard to -ā- in Tocharian, it should be noted that both languages tend to reduce -wā- and -yā- to -u- and -i- respectively, e.g., A *purpār* 'enjoy!' from the root *wārp-* or B *ipāṣṣeñca*, the causative participle to the root *yāp-* 'to enter'.

1.2 CHANGES TO PROTO-INDO-EUROPEAN LARYNGEALS. Like Proto-Indo-European resonants, the PIE "laryngeals" had both vocalic and consonantal allophones. In general it appears that the laryngeals were less likely to vocalize than were adjacent resonants, so that a combination */TRHT/ or */THRT/ would have been *[TRHT] and *[THRT]. It would also appear that the tendency to vocalize laryngeals was not uniform over the entire Proto-Indo-European area, e.g., pre-Greek shows a far greater tendency towards vocalization than do other groups. Most Indo-European groups show but a single kind of vocalization, Brugmann's *a--no matter what the laryngeal, but Greek shows -e-, -a-, or -o- depending on the coloring of the vocalized laryngeal. In addition, Greek is exceptional that in it the laryngeals tend to vocalize even after *i and *u, while all other groups show loss of the laryngeal in this environment with lengthening of the preceding *i or *u. (For a full discussion of the Greek evidence, see Beekes, 1969.)

Ever since Winter's pioneering discussion (1965) it has been widely supposed that the Tocharian treatment of Proto-Indo-European laryngeals was more like that of Greek than that common to the rest of the Indo-European world. Particularly, Tochar-

ian is presumed to show widespread vocalization of the laryngeal after resonants and preservation of the laryngeal's color in the vocalic reflex. However, the evidence for Winter's conclusions is scanty and all too often capable of more than one interpretation. Fuller evidence suggests that, after all, Tocharian is not particularly like Greek in its treatment of laryngeals.

For the sake of our exposition, it is convenient to divide the possible environments in which a laryngeal might occur in Proto-Indo-European into three groups: (1) before a syllabic (vowel or vocalic resonant)--including those cases where the laryngeal followed another syllabic; (2) after a syllabic and before a non-syllabic; and (3) between non-syllabics. In the first set of cases, the laryngeal disappeared in all Indo-European groups, except Anatolian and Albanian (see Hamp, 1965), after coloring an adjacent *ē. If the preceding sound was a syllabic resonant, then the sequence *RHV became *RRV. Thus, in the usual instance, we have a late Proto-Indo-European (and pre-Tocharian) *aĝ- 'to drive' from an earlier *Aeĝ- or *okw 'eye' from an earlier *Oekw. Late Proto-Indo-European *RR would give Proto-Tocharian *ur, later *ār*, just as *R did (see section 3.19); the Tocharian evidence for a Proto-Indo-European laryngeal in this position is thus nil. For instance, we find the preterite stems B *kāryā-* 'negotiated' or B *tlā-* 'raise up' from PIE *kwriA-eA- and *lA-eA, and the noun B *pārwāne* 'eyebrows' (dual) from PIE *bhruHōnoH, but the noun formative B -iye [A -i] from PIE *-iEē nor B *tuwe* ~ *twe* [A *tu*] 'thou' from PIE *tuHōm. On the other hand, we also find Tocharian -āR- where Proto-Indo-European had only *R and not *RR. Thus PIE *Erudhrós gave B *ratre* [but A *rtār*] 'red' and PIE *krupyos gave B *kārpiye* [A *kārpi*] 'common'.

In the second set of environments, where the laryngeal followed a syllabic and preceded a non-syllabic, there is uniformity in treatment in the Indo-European speaking world only when the preceding syllabic was a vowel. In that case the laryngeal was lost with concomitant coloring and lengthening of the vowel. For instance, we have in Tocharian the usual nominative and verbal formatives in AB -ā- from PIE *-eA- (B *śana* 'wife' from PIE *gweneA, *kāryā-* 'negotiated' from PIE *kwriA-eA-), or B *śāy-/śāw-* [A *śo-*] 'to live' from PIE *gwyēOw-e/o- [: Greek *zōō* 'I live']. After an *i or *u, laryngeals were also lost with lengthening of the *i and *u, e.g., B *ṣim* 'roof' from PIE *siHmṇ [: Sanskrit *śīmān-* 'extremity' (Van Windekens, 1976:455)], AB *riñ*

cities' from PIE **wriHnes* [: Thracian *bría* 'pólis, telkhos', Hesychius], B *akrūna* [A *ākrunt*] 'tears' from PIE *(d)akruA* + (later) *nā*.

After the other syllabic resonants, Winter assumed a uniform vocalization of the laryngeal to PTch **ā*, but a closer look at the evidence shows that the picture is more complex. Actually, there are two developments. In the combination **(T)RHTE*, the laryngeal disappears without a trace in Tocharian. In the combination **(T)RHTT*, however, the Proto-Tocharian reflex was **(T)RaTT* (with **a* normally giving AB *-ā*). Examples of the first development include:

B <i>pāllent</i> - 'full (of the moon)'	PIE <i>*plEno-went</i> - [: Sanskrit <i>pūrṇá</i> - 'full', English <i>full</i>]
B <i>pilta</i> [A <i>pālt</i>] 'leaf'	PIE <i>*bhlEdōs</i> - [: German <i>Blatt/Blätter</i> 'leaf, leaves']
B <i>klānts</i> - [A <i>klis</i> -] 'to sleep'	PIE <i>*klmH-se/o-</i> [: Sanskrit <i>klāmyati</i> 'he is fatigued, exhausted'] ²⁵
AB <i>kāly</i> - 'to stand'	PIE <i>*klE-ye/o-</i> [: Lithuanian <i>kilti</i> 'to stand up' (intr.)]
B <i>pārweṣṣe</i> [A <i>pārwat</i> 'first']	PIE <i>*prOwo-</i> [: Sanskrit <i>pūrva</i> - 'first'] ²⁶

Examples of the second development are fewer but also sure:

A <i>kānts</i> - 'to acknowledge'	PIE <i>*ĝnE-skē/o</i> ²⁷
A <i>nātsw</i> - [B <i>mātsts</i> -] 'to starve'	PIE <i>*n-Edstw-ye/o-</i> [: Greek <i>nēstis</i> 'fast']
B <i>kāmnaṣṣām</i> [A <i>kumnās</i>] 'he comes'	PIE <i>*gwm-nA-skē-</i>

If, after the loss of **-H-* in **(T)RHTE* the **-H-* (> PTch **a*) in words of the shape **(T)RTTE* came to stand before a single consonant, it appears as *ā* (see section 3.114), e.g., B *krāñi* 'nape of the neck' from PIE **krAsniyom* [: Greek *krānion* '(upper part of the) head, skull'] in this case with simplification of the cluster **-sn-*) or A *mrāc* [B *nrāce*] 'upper part of the head, skull' if, with Winter, we see an etymological connection with Sanskrit *mūrdhān*- 'head'. In this case the Proto-Tocharian **a* would come from the weak cases such as the genitive (PIE **mrHdhnós*), where it is phonologically regular.

Winter's assumption that any Proto-Indo-European **TRHT* would be reflected in Proto-Tocharian by **TRāT* rather than **TāRT* is based largely on morphological criteria. He assumed that B *ostwa* [A *waštu*] 'houses' or the feminine B *rtaryai* [A *rtāryām*] 'red' were the direct descendents of PIE **wostuA* and **ErudhriA-*, etc. However, there is plenty of evidence from other Indo-European groups for the analogical spread of **eA* for **A* in these morphological categories, so there is no necessity to assume that the PTch **ā* we find in such cases represents PIE **A* rather than **eA*. Indeed, there is good evidence for assuming the contrary, since Tocharian preserves a few good examples of a PIE **A* that was not replaced by **eA* in these same morphological contexts, e.g., B *akrūna* [A *akrunt*] 'tears', which reflects PIE **(d)akruA* or B *ersna* 'form', which must represent a PIE **oresA* + (later) *-nā*.²⁸

Of our third group, laryngeals before non-syllabics, Tocharian offers clear evidence for the vocalization of **H* when it occurred between two obstruents or between obstruent and pause, e.g., AB *tās*- 'to put' from PIE **dhE-se/o-*, B *pācer* [A *pācar*] 'father' and *tkācer* [ckācar] 'daughter' from PIE **pAtēr* and **dhugAtēr*, or B *ersna* 'form' from PIE **oresA* (via **oresa* > **erjāsā* + *nā*). By analogy we might expect a laryngeal to become vocalized when between a pause and obstruent. Such a hypothesis would neatly explain AB *āks*- 'announce' if from PIE **Eĝ-s* [: Greek *ē* 'he said' or Latin *axāmenta* 'religious hymns of a certain type'] and B *āks-ā*- 'to awaken' if from PIE **Akus-eA-* [: Greek *akoúō* 'I hear' and Gothic *hausjan* 'to hear'].²⁹

When a Proto-Indo-European laryngeal was between pause and a resonant it was lost without a trace, e.g., B *ratre* [A *rtār*] 'red' from PIE **Erudhrós* [: Greek *eruthrós*] or AB *lut* 'to drive away' from PIE **Elewdh-* [: Greek *eleúsomai* 'I will go, move, come']. So too a laryngeal appears to be lost after a non-syllabic resonant when before another consonant, e.g., B *kānt*- 'to rub off' from PIE **konHd-* [: Lithuanian *kāndu* 'I bite' and possibly Greek *knódōn* 'sword']. Tocharian B *āñme* 'soul' is generally derived from PIE **anEmos* (**AenEmos*) [: Greek *ánemos* 'wind'] and taken as proof of the vocalization of laryngeals in such an environment. This etymology, however, separates the Tocharian B word from what should be its nearest congener, Tocharian A *āñcām* (oblique stem *āñm-*) 'soul'. It would probably be better to assume a PTch **āñcāme* > **āñcme* wherein the **c* was lost in Tocharian B and in Tocharian A except where it

as protected by the epenthesis of an -ä-. The loss of -c- in this stance would be somewhat like the reduction of final *-ñc to -ṃ in Tocharian B, e.g., *ikām* 'twenty'.

In sum, then, it would seem that in pre-Tocharian a proto-Indo-European laryngeal was nearly always less sonorant than an adjacent vowel or resonant. Far from being a language like Greek, which shows many vocal reflexes of PIE laryngeals, Tocharian shows very few.

3 CHANGES TO THE CONSONANTAL ALLOPHONES OF PIE RESONANTS. The consonantal allophones of the Proto-Indo-European resonants (for the vocalic allophones, see section 3.112) had a relatively uneventful history in Tocharian. Proto-Indo-European *r, *l, *n and *m normally appear in both Tocharian A and B unchanged. In palatalizing environments (see section 3.44) PIE *l and *n appear as -ly- and -ñ-. Examples:

IE *r AB *mārs-* 'to forget' from PIE *mers- [: Sanskrit *mṛṣyate*], B *ratre* [A *rtār*] 'red' from PIE *Erudhrós [: Greek *eruthrós* 'red'], B *trai* ~ *trey* [A *tre*] 'three' from PIE *tróyes (with the vowel in the root syllable modeled on that of *kwetwores), B *pācer* [A *pācar*] 'father' from PIE *pAtēr, or B *pūwar* [A *por*] 'fire' from PIE *puAōr [: <*p(e)Awōr [: Hittite *pahḫur* 'fire' (<*peAwr)];

IE *l B *leki* ~ *leke* [A *lake*] 'bed' from PIE *logho-, B *plewe* 'boat' from PIE *plowos [: Sanskrit *plavá-* 'id.'], or B *telki* [A *talke*] 'sacrifice' from PIE *tolko- [: Lithuanian *talkà* 'banquet'], or, with palatalization, B *kālyp-* 'to steal' from PIE *klep- [: Greek *kléptō* 'I steal'], B *lyam* [A *lyām*] 'lake' from PIE *lim- [: Greek *límne* 'mere'], B *kalywe* [A *klyu*] 'fame' from PIE *kléwos;

IE *n B *no* [A *nu*] 'now' from PIE *nū [: Sanskrit *nū* 'then'], B *šana* [A *šāp*] 'wife' from PIE *gwenā-, or B *yente* [A *want*] 'wind' from PIE *wēntos [: Latin *ventus* 'wind']. In a palatalizing environment we have B *ñuwe* [A *ñu*] 'new' from PIE *néwos, AB *ñu* 'nine' from PIE *néw- or B *peñiyo* [A *pañi*] 'splendor' from PIE *(s)pondiHōn- [: Lithuanian *spindà* 'splendor' --Van Windekens, 1976:346-347].

IE *m B *keme* [A *kam*] 'tooth' from PIE *gombhos [: Sanskrit *jāmbha-* 'tooth, tusk'], B *meske* [A *masāk*] 'lie, bond' from PIE *mozg(h)os [: Lithuanian *māzgas* 'knot'], B *šim* 'roof'

from PIE *siHm- [: Sanskrit *sīmān-* 'extremity' --cf. Van Windekens, 1976:455], or B *mit* 'honey' from PIE *medhu.

When final, both *n and *m disappear. Before disappearing, however, PIE *m first became *n. The evidence for such a change is clearest in B *keṃ* [A *tkam*] 'earth' from PIE *dhghom- [: Greek *khthon-*, Skt. *kṣam-*], and it is only by such an assumption that we can readily explain B *sana* [A *sām*] 'one' (fem.). A Proto-Indo-European neuter *sm- [: Greek *hén* with the vowel after the masculine forms] became first *sām and then *sān, to which the feminine suffix -ā was added (just as it was in the case of the numerals 'three' and 'four') giving PTch *sānā.

Proto-Indo-European *n and *m also disappeared very early when they were directly before a PIE *s. Thus we find Tocharian B *mīsa* 'meat, flesh' from PIE *mems-, B *-me-* [A *-m*] 'us, you, them' (the plural enclitic pronoun) from, in part, PIE *nsmo- (see section 6.17 and section 3.4 also), or AB *māsk-* 'to be, to find oneself' from PIE *mṇ-ske/o- [: Greek *ménō* 'I remain'].

Proto-Indo-European *y normally appears as -y- in both Tocharian A and B. There is, for instance, B *yās-* [A *yās-*] 'to boil' from PIE *yes-, B *skeye* [A *ske*] 'effort' from PIE *(s)kwoyos [: Greek *poiéō* 'I do, make'], or B *trai* ~ *trey* [A *tre*] 'three'. As the last two examples illustrate, the monophthongization of diphthongs in Tocharian A (see section 3.18) may obscure the outcome of PIE *y (and *w). When the PIE *y followed a palatalizable consonant the preceding consonant was palatalized (see section 3.44) and subsequently the *y was lost with concomitant lengthening of the consonant, e.g., the adjective forming suffixes B *-ññe* and *-šše* from PIE *-nyo- and *-syo- respectively. The absorption of the *y under these conditions came after the breakup of Proto-Tocharian unity, as Tocharian A shows *-ñi* and *-ši* with vocalization of the PTch *y after the loss of final vowels.

Proto-Indo-European *w gives -w- in both languages, everything else being equal. Thus we have B *wāp-* [A *wāp-*] 'to weave' from PIE *webh-, B *swāre* [A *swār*] 'sweet' from PIE *swādros (*sweAdros), B *twere* 'door' from PIE *dhworo-, or *leswi* 'attacks of weakness' from PIE *losiwoy [: Gothic *lasiws* 'id.' --cf. Van Windekens, 1976:261]. Before a front vowel or *y, PTch *y was palatalized like most other consonants. This palatalized *w (*w_y) fell together with *y in Tocharian B but with unpalatalized *w in Tocharian A, e.g., B *yente* [A *want*] 'wind', B *yšiye* [A *wše*] 'night' from PIE *wesiEen- [: Sanskrit *vāsati* 'he passes the night'], or B *ikām* [A *wiki*] 'twenty' from PIE *wikṃti. A

particularly nice example of this correspondence is provided by the paradigm of *śāy-* ~ *śāw-* 'to live' in Tocharian B. An original PIE **weyew-* [e/o-] (: Greek *zōō* 'I live') would give a PTch **ś(y)āwjä* ~ *(y)āwe* or in Tocharian B **śāyā-* ~ **śāwe-* [Tocharian A **śāwā* ~ *āwa*]. Since the interchange of *-w-* and *-y-* was very uncommon in morpheme-final position, it is not surprising that *śāy-* and *śāw-* have become independent of one another and both provide the bases for separate conjugations of 'to live'.³⁰

In Tocharian B, post-consonantal *-w-* shows a tendency to disappear after dentals. After a non-initial *-t-* or *-s-* it disappears leaving the preceding dental lengthened, e.g., B *ritt-* [A *ritw-*] 'to be joined' or the adjective forming suffix *-ssunt-* from PIE **-swent-* (see section 5.622). Before a final *-e*, however, there is no assimilation, e.g., *eraitwe* 'in union with'. After an *-n-* the *-w-* disappears but there is sometimes lengthening and sometimes not, e.g., B *pānn-* [A *ānw-*] 'to span' from PIE **(s)pAnw-*, but B *keni* [A *kanwe*] 'knees' (dual) from PIE **ḡonwoy*. After an **l* or an **r*, the **w* disappears without lengthening, e.g., B *šale* [A *šul*] 'mountain' from PIE **selwos* (Latin *silva* 'forest') or B *šmare* 'oily, sleek' from PIE **smerwos* (Old English *smeoru* 'grease') (but B *šerwe* 'hunter', probably from PIE **ḡhwērwo-*). Both languages show the loss of an original **w* when it lay between an **s* and a palatalizing vowel, e.g., B *špane* [A *špām*] 'leap' from PIE **swepnos* (: Latin *somnus* 'sleep') or B *šer* [A *šar*] 'sister' from PIE **swesor*.

4 CHANGES TO THE PROTO-INDO-EUROPEAN OBSTRUENTS. The most noticeable development of the Proto-Indo-European obstruents in the course of the emergence of Proto-Tocharian was the early complete merger of all three series of stops—voiceless, voiced, and voices aspirates (but see section 3.0)—into a single series of phonemically voiceless stops (see section 2.1). For sound changes affecting the PIE obstruents before this merger, see section 3.43.

4.1 MERGER OF THREE PIE SERIES: LABIALS AND DENTALS. Among the labial stops we find B *kālyp-* 'to steal' (PIE **klep-*), B *ācer* [A *pācar*] 'father' (PIE **pAtēr*), B *plewe* 'boat' (PIE **plowos*); B *āpre* [A *pār*] 'high' (PIE **dhubros* (: Gothic *diups* 'deep')), B *yepē* 'knife' (PIE **wēben-* (: Gothic *wēpn* 'weapon')); or B *procer* [A *tracar*] 'brother' (PIE **bhrātēr*), AB *pār-* 'to carry' (PIE **bher-*), A *lap* 'head' (PIE **lobhos* (: Greek *lóphos* 'neck (of an animal)')).

The same merger among the dentals is illustrated by B *kante* [A *kānt*] 'hundred' (PIE **kmtóm*), B *okt* [A *okāt*] 'eight' (PIE **oktōw*), B *trite* [A *trit*] 'third' (PIE **tritos*); B *kaut-* [A *kot-*] 'to strike' (PIE **keAwd-* (: Latin *cūdere* 'to strike')), A *tāk-* 'to move, reflect' (PIE **duk-* (: Latin *dūcere* 'to conduct, think')), AB *twā-* 'to kindle' (PIE **duH-eA-* (: Sanskrit *dunóti* 'he burns, afflicts')); or AB *lut-* 'to drive away' (PIE **Elewdh-*), B *mit* 'honey' (PIE **médhu*), B *twere* 'door' (PIE **dhworo-*).

3.42 MERGER OF THREE PIE SERIES: PALATALS, VELARS, LABIO-VELARS, AND PALATALS + *w. The palatals (and plain velars) all show a development to Proto-Tocharian **k*.³¹ We find, for instance, B *kante* [A *kānt*] 'hundred', B *kalywe* [A *klyu*] 'fame' (PIE **kléwos*), B *cake* 'river' (PIE **tekont* (: Lithuanian *tekù* 'I run')); AB *āk-* 'to lead' (PIE **ag-*), B *keni* [A *kanwe*] 'knees' (dual ([as if] from PIE **ḡonwoy*), B *meske* [A *masāk*] 'tie, bond' (PIE **mozgos* (: Lithuanian *māzgas* 'knot')); or AB *ku-* 'to pour' (PIE **ḡhew-*), AB *tānk-* 'to hinder' (PIE **teng-* (: Lithuanian *tingùs* 'lazy, slow')).

In general the labio-velars show the same development to Proto-Tocharian **k* as do the palatals and plain velars, e.g., B *ek* [A *ak*] 'eye' (PIE **okw*), B *kās-* ~ *kes-* [A *kās-*] 'to extinguish' (PIE **(z)gws-* ~ **(z)gwos-*), B *wek* [A *wak*] 'voice' (PIE **wokws*); B *ke* [A *ko*] 'cow' (PIE **gwows*), B *kātso* [A *kāts*] 'stomach' (PIE **gwōtyōn-*: Gothic *qīpus* 'stomach' --cf. Van Windekens, 1976:198); AB *tsāk-* 'to burn' (PIE **dheghw-*), B *lañktse* 'light (i.e., not heavy)' (PIE **lñghwtyo-*).

One sees the same development to Proto-Tocharian **k* in the case of Proto-Indo-European palatal plus **w* (i.e., **kw*, **ḡw*, or **ḡhw*). Thus we have B *kene* [A *kam*] 'tune, melody' from PIE **ḡhwonos* (: OGS *zvonŭ* 'sound').

Both the PIE labio-velars and palatal plus **w* appear as AB *-kw-* under certain circumstances—notably whenever they would occur before an early Proto-Tocharian **ā* or before any non-rounded vowel not in an initial syllable. Thus we find B *kwās-* 'to mourn' (PIE **kusH-* ~ **kwesH-*), B *sekwe* [A *saku*]³² 'pus' (PIE **sokwos* (: Greek *opós* 'sap', Albanian *gjak* 'blood')), or B *yakwe* [A *yuk*] 'horse' (PIE **ekwos*), but B *kene* [A *kam*] 'tune, melody' (PIE **ḡhwonos*).³³

The developments affecting the PIE labio-velars and sequences of palatal plus **w* can be outlined in the following series of putative phonological changes:

(1) *u* → *wā* after **k* (and in absolute initial position—see section 3.112)

2) *kw* and *kw* coalesce as PTch *kw*

3) $w \rightarrow \emptyset / k \text{ ____ } [+ \text{cons}]$ in pre-Tocharian B
 $/ k \text{ ____ } [+ \text{cons}]$ in pre-Tocharian A
 L - son J

4) $w \rightarrow \emptyset / k \text{ ____ }$ rounded vowel

5) $w \rightarrow \emptyset / \# k \text{ ____ } V$, except where $V = \text{ä}^{34}$

6) $-\tilde{a}(n)knw- \rightarrow -u(n)k-$ in Tocharian A

4.3 OTHER EARLY DEVELOPMENTS

a) LOSS OF $*d$ BEFORE RESONANTS AND $*j$. However early the merger of the three Proto-Indo-European series of stops occurred, there were certain changes affecting obstruents that were earlier still. Most noticeable perhaps was the loss of PIE $*d$ (but not $*t$ or $*dh$) before consonantal sonorants, including the $*j$ epenthesized before front vowels. This change accounts for B *pai(-ne)* [A *pem*] 'feet' (dual) from earlier $*podje$ (PIE $*pode$), AB *olyi* 'boat' from older *oldjiyen-* (PIE $*oldiHen-$), B *syā-* 'to sweat' from PIE $*swidyelo-$ + $-\tilde{a}-$, B *-pew-* 'having (so many) feet' (PIE $*podwent-$), AB *wi-* 'to fear' (PIE $*dwey-$), B *wi* [A *we*] 'two' (in A feminine only) from PIE $*dwoy$; B *wāre* [A *swār*] 'sweet' from PIE $*swādro$; B *ime* 'memory' from PIE $*weydmēn$, or B *šcono* 'hate' from PIE $*stewdnōn$ [: OCS *studŭ* 'cold, shame' --cf. Van Windekens, 1976:483].³⁵

b) LOSS OF $*b(h)$ AFTER $*m$: In a similar, though opposite, fashion PIE $*b$ and $*bh$ were both lost after $*m$. One should note B *keme* [A *am*] 'tooth' from PIE $*gombhos$ or B *lymine* [A *lymem*] 'lips' (dual) from PIE $*lemb(h)iEen-$.

c) LOSS OF $*s$ BEFORE NASALS: Somewhat like the previous change, in that nasals are involved, is the loss of $*s$ immediately before a nasal. This change does not take place in absolute initial position, thus B *snātk-* 'to permeate' from PIE $*snud-ske/o-$ (Melchert, 1977:117-118) or B *smi* 'to smile' from PIE $*smey-$ [English *smile*], but it does occur, under circumstances not yet fully defined, word internally. We find, for instance, B *-me* [A *-m*], the enclitic pronoun of the first, second, and third persons plural which comes, in part, from PIE $*psmo-$ and $*usmo-$ or B *krāñi* '(nape of the) neck' from PIE $*krAsniyom$ [: Greek *krānion* '(top of the head, skull)'].

d) SIMPLIFICATION OF OBSTRUENT CLUSTERS WITH $*s$: PIE $*Ksĥ$ and $*ks$ became *sk* and *tk* respectively. Examples come from verb

roots where the $*sĥ$ was originally the present (or iterative-intensive--see section 4.5) forming suffix $*-sĥe/o-$. We find, for instance, AB *wesk-* 'to speak' from PIE $*wokwsĥe/o-$ or B *snātk-* 'to permeate' from PIE $*snudsĥe/o-$. The resultant verbs in *-tk-* form a noteworthy group in both Tocharian languages.³⁶ I would expect that, in a like manner, PIE $*psĥ$ would have simplified to *sk* also (since labial and velar consonants [i.e., peripheral ones] tend to act alike), but I know of no examples.

e) LOSS OF FINAL OBSTRUENTS: Also early, though whether preceding or following the merger of the three obstruent series is indeterminable, is the loss of all final obstruents (save PIE $*s$ in the combination $*-ns$). We find, for instance, B *te* [A *ta-*] 'it' from PIE $*tod$, or B *wek* [A *wak*] 'voice' from PIE $*wokws$ [: Greek acc. sg. *ōpa* 'voice, sound, word']. The loss of these obstruents is similar to but earlier than the loss of final $*m$ or $*n$. The change of PIE $*ē$ to $*ā$ in absolute final position takes place after the loss of final obstruents, e.g., the preterites in $-ssa$ in Tocharian B (from PIE $*-sĥ-ē-t$), but the nominative singular *meñe* 'month, moon' from PIE $*mēnēn$.

f) DOUBLE CONSONANTS (including $*TST$): Proto-Indo-European double consonants, with one notable set of exceptions, undergo the changes that affected their single counterparts but do not degeminate. The exceptions involve PIE $*-TST-$. Van Windekens (1976:105) assumes that all such combinations gave PTch $*-tsts-$. His two strong etymologies are B *wratssai* 'against' and B *wartstse* 'broad'. The first, as he points out, must be the etymological equivalent of Latin *versus* 'against' from $*wrtsto-$, and the second must be equatable with Sanskrit *vrddhā-* 'great, augmented, multiplied' from $*wrdhsto-$. On the other hand, his connection of B *wāstarye* 'innards, liver (?)' with Greek (Hesychius) *hústros* 'gaster' is semantically and formally very satisfying. Because of his belief that PIE $*TST$ must be reflected by Tocharian $-tsts-$, Van Windekens must deny the usual, and self-evident, connection of the later word with the Sanskrit *udāra-* 'belly' (the Sanskrit word being segmented $*ud-ero-$ while in Greek we have $*ud-tero-$). If B *wāstarye* is from PIE $*ud-tro-$, then B *last(o)* 'pod' could be from $*Eludh-to-$, which is semantically satisfying (as the 'swollen' or 'massive' one). How do we account for the difference in treatment? Given the small numbers of examples, any conclusions must be tentative, but it would seem possible to assume that a PIE cluster of $-TSTy-$ might have given $-tsts-$ (since $-Ty-$ gave $-ts-$ anyway, see section 3.44) while $-TST$ gave $-st-$ as in Greek.

Since PIE $*(t)o$ -stems so often become $*(t)yo$ -stems in Tocharian, we make no particular difficulties for Van Windekens' attractive Latin and Sanskrit connections.

g) FINAL OUTCOME: The end result of the three-way merger (and the collapse of the palatals and plain velars) was to leave a very much simplified obstruents system in Proto-Tocharian:

p	t	k	kw
	s		

3.44 PALATALIZATION. Almost as salient as the three-fold merger of stops in the history of Tocharian is the widespread palatalization that is so characteristic of both languages and which plays so signal a role in Tocharian morphology (e.g., *lyak* 'thief', *lyśi* 'thieves' or *tāllaskau* 'I raise up', *cālawā* 'I raised up'). Krause (1943) was apparently the first to assert that there were two layers of palatalization to be seen in the history of Tocharian. The earlier one, First Palatalization (his "Affrizierung"), affected only dentals, while Second Palatalization affects almost all PIE obstruents and resonants.

The outcome in all cases of First Palatalization was an early Proto-Tocharian $*ts$, e.g., AB *tsār-* 'to separate' from PIE $*der-$ [Greek *dérō* 'I flay' or English *tear*], B *pets(o)* [A *pats*] 'husband' from PIE $*pótis$, or B *lāntsa* [A *lānts*] 'queen' from PIE $*wleAntyeA$. First Palatalization took place before PIE $*y$ or before a front vowel—presumably after the front vowel had already developed an epenthetic $*i$ (see section 3.11). One should note that PIE $*d$ became PTch $*ts$ in word initial position before this $*i$, e.g., *tsār-*, but was lost before $*i$ otherwise, e.g., AB *olyi* 'boat' (see section 3.43[a]). The great age of First Palatalization is shown by the complete leveling of any morphological alternation between palatalized and non-palatalized consonant, e.g., PTch $*tsār-$ ~ $*ter-$ that we might expect from PIE $*der-$ ~ $*dor-$. Any individual root in Tocharian gives evidence for either the originally palatalized form or the non-palatalized one, but not both.³⁷

Second Palatalization was later and much more extensive, affecting all apicals except $*r$ (including the $*ts$ which resulted from First Palatalization and $*t$ which had been analogically restored after First Palatalization) and velars. It may also have originally included the labials but, if so, the palatalized and non-palatalized segments subsequently fell together again. Among the labials only PTch $*w$ is an exception to the latter generalization, as Tocharian B clearly shows

the effects of Second Palatalization. We may suppose that Second Palatalization arose from the transfer of the palatal on-glide epenthesized before PIE front vowels to the preceding consonant, i.e. $*C_iV > *C'V$. As a result, at some stage of Proto-Tocharian the consonant system would have looked something like the following:

NON-PALATALIZED				PALATALIZED			
p	t	k	kw	(p')	t'	k'	kw'
	ts				ts'		
	s				s'		
m	n			(m')	n'		
w	l	y		w'	l'		
	r						

In a somewhat later stage of Proto-Tocharian, that stage immediately antedating the break-up of Proto-Tocharian unity, the palatalized segments had the following probable phonetic shapes.

LATE PROTO-TOCHARIAN PALATALIZED CONSONANTS

c	ś	ś38
ts'		
s		
ñ		
w'	ly	

Subsequently Proto-Tocharian $*ts'$ fell together with $*ś$ (from PIE $*k$, $*k'$ and $*kw$) in Tocharian A but with $*ts$ in Tocharian B.³⁹ Conversely PTch $*w'$ fell together with $*w$ in Tocharian A but with $*y$ in Tocharian B (see section 3.3).

Examples of palatalization representing PIE dental stops are provided by B *pācer* [A *pācar*] 'father' (PIE $*pAtēr$), B *ścīre* 'hard, solid' (PIE $*ster-$: Greek *stereós* 'hard, solid'), or B *lac* [A *lāc*] 'he went out' (PIE $*Eludhét$). For PTch $*ts$ ~ $*ts'$ we note Tocharian A *tsām-* ~ *śām-* 'to (cause to) grow' from PIE $*dem-$ [Greek *dēmo* 'I construct, build'] or *tsār-* ~ *śār-* 'to separate' from PIE $*der-$. PIE $*s$ is to be seen in B *śkas* [A *śāk*] 'six'⁴⁰ from PIE $*s(w)ek̑s$, B *śalye* [A *śālyp*] 'butter, grease, ointment' from PIE $*selpos$, or B *še* [A *ša-*] 'one' from PIE $*sem$ (for the vowel in this word, see section 3.111).

The palatalized palatals, velars, and labio-velars appear in B *mišo* 'urine' from PIE **meyǵhyōn* [: Sanskrit *mehá-* 'urine'], B *śana* [A *śām*] 'wife' from PIE **gwenā*, or B *eś(-ne)* [A *aśām*] 'eyes' (dual) from PIE **okwī*.⁴¹ The palatalized variants of the PIE resonants are seen in B *kālyp-* 'to steal' from PIE **klep-*, B *kalywe* [A *klyu*] 'fame' from PIE **kléwos*, B *ñuwe* [A *ñu*] 'new' from PIE **néwos*, B *meñe* [A *nañ*] 'month, moon' from PIE **mēnēn*, and B *yakne* [A *wkām*] 'manner, fashion' from PIE **weǵhno-*, B *yente* [A *want*] 'wind' from PIE **wēntos* (**weEntos*).

In Tocharian B analogical pressure has created certain "tertiary" palatalizations. Thus in certain nominal formations, i.e., adjectives in *tstse*, pattern pressure (see section 5.33) led to a new palatal analog of *-ts-*, namely *-c-*, e.g., *orotstse* 'big, great' (nom. sg.) but *rocceṃ* 'big, great' (acc. sg.). In a somewhat similar fashion the interchange of palatalized and non-palatalized consonants as a morphological process of the Tocharian B verb was extended by the creation of the following pairs: *p-* ~ *py-*, *m-* ~ *my-*, *ts-* ~ *tsy-*, and *k-* ~ *ky-*, e.g., *palkāṃ* 'he illuminates' ~ *pyālka* 'he caused to be illuminated' or *uṣāṃ* 'he pours' ~ *kyauware* 'they let pour'.

4.5 LATER DEVELOPMENTS IN TOCHARIAN A AND B. The Proto-tocharian consonants remained quite stable in both languages. We might note two general tendencies: (1) in Tocharian A the cluster *-st-* becomes *-št-*, e.g., *štām* [B *stām*] 'tree' or *škāšt* [B *škaste*] 'sixth' *st-* is found only in loanwords, e.g., *waste* [B *waste*] 'refuge', and (2) the tendency in both languages for an apical consonant to assimilate in place of articulation to a following apical, e.g., B *yentār* 'they stand' but *kaltār* 'he stands' from /*kāly-tār*/ or the verbal abstracts in *-lāññe* ~ *lñe-* ~ *-lyñe*. In both languages, too, consonant clusters may be simplified, particularly those involving *-t-* in some way. In Tocharian B we find *mārtk-* ~ *mārkk-* 'to cut (of hair)', *kārkkālle* 'ool' [A *kārtkāl*], or *speltke* ~ *spelke* 'zeal, effort' [A *spaltāk*]. Initially we have *kem* [A *tkaṃ*] 'earth' but *tkācer* [A *ckācar*] 'daughter'—the difference in treatment may go back, as Van Windekens suggests (1976:106), to a difference between PIE **dhǵhom-* versus **dhugAtēr*. Tocharian A shows a simplification of any *-tn-* cluster, e.g., *knāṣ* 'he rews' but B *katnaṃ* (both from PTch **kātnā-*), while Tocharian B shows the same simplification only in the sequence *-ntn-*, e.g., B *assām* 'he comes out' (earlier **lāntnāsk-*).

Most mysterious is the *-p-* which sometimes appears after an initial *t-* or *ts-* in Tocharian A, e.g., *tspāñk-* [B *tsāñk-*] 'to flap' or *tpuk-*

[B *tuk-*] 'to hide'. The most plausible solution is that the *-p-* is in origin a prefix (PIE **pi-/pe-* or even *wi-*?) and that a Proto-Tocharian cluster **pts-* or **pt-* was simplified to *ts-* and *t-* in Tocharian B but was metathesized to *tsp-* and *tp-* in Tocharian A. I would feel more certain with such an explanation if the etymologies of the words affected were more secure.

NOTES

1. Anatolian evidence, and evidence from Albanian as well (Hamp, 1965), suggests that Proto-Indo-European had two "a-coloring" laryngeals: A_1 and A_2 , but if so they were not distinguished in Tocharian. Proto-Indo-European O also colors an adjacent e to o .
2. Internal reconstruction strongly suggests that the syllabic allophones of the resonants are nothing more in origin than special cases of a (non-syllabic) resonant adjacent to schwa secundum, i.e., $*e_r$ or $*r_e$ gave $*r$ (Hoenigswald, 1960:134). Vowels and syllabic resonants could be either "stressed" (i.e., probably high pitched) or unstressed, though a stressed syllabic resonant was rather rare. The PIE distinction of stressed and unstressed syllables remained long enough to affect the outcome of $*o$ in final syllables (see section 3.113), but the synchronic placement of stress in Tocharian A and B, while phonemic, appears to be independent of the place of PIE stress. In reconstructions of Proto-Indo-European I have indicated stress only where the evidence for placement on a particular syllable is very strong.
3. Such a change is phonetically plausible if Martinet (1955:235-247) is right in suggesting a retracted articulation for PIE $*s$.
4. A PIE $*y$ both palatalizes and lengthens a preceding consonant, e.g., the common adjective forming suffix in B, $-ññe$ from PIE $*-nyo-$, whereas $*j$ palatalizes only, e.g., B $meñe$ 'month, moon' from PIE $*mēnēn$.
5. Van Windekens' attempt to explain B $mā$ (1976:282-283) as the result of the influence of Sanskrit $mā$ is lame in the extreme and is certainly just as *ad hoc* as those he rejects (reference to different treatments by Couvreur, 1947:8 and Lindeman, 1969:21).
6. One should compare the nominative singular B $walo$ [A $wāl$] to this word. Tocharian B $walo$ comes from PIE $*wlānt(s)$. This difference in treatment of the initial $*wl-$ cluster is difficult but probably related to the difference in the length of the word.
7. Tocharian B $procer$ 'brother' [A $pracar$] shows the expected development of PIE $*bhrātēr$, though with the last syllable analogical after $pācer$, $tkācer$. Tocharian B $mācer$ [A $mācar$] 'mother' rather than $*mocer$ [A $macar$] shows the more thoroughgoing influence of $pācer$. Lubotsky (1985:7) presents an analysis of Kortlandt's that attempts to explain Mutual Rounding as the result of a $*-w-$ in the second syllable. That some of the forms in question may have had a $*-w-$ in them is quite likely, but it does not seem possible to explain the phenomenon as a whole that way.
8. The rounded vowel seen in B $ṣukt$ [cf. A $ṣpāt$] 'seven' is probably analogical (like the velar stop) somehow to okt 'eight' rather than phonological.
9. Or is this a case of rounding induced by a following labio-velar? A more certain instance of rounding of PTch $*ḡ$ is provided by the adverb $tsōñkaik$ 'in the morning', which is the accusative singular ($tsōñkar$), plus the particle of reinforcement $k(o)$, of a noun $tsōñko$ 'morning' where the root vowel must have originally been PTch $*ḡ$, i.e., $*tsēñkō$ (cf. the present $tsēñketār$ 'it rises' to the root $tsāñk-$ 'rise').

10. Another case in Tocharian B is $krośce$ 'cold' from PIE $*krusten-$, where PIE $*u$ appears as $-o-$ in an apparently non-rounding environment. It becomes explicable, however, if we start from a PIE nominative singular $*krūston$ which would give $*krōstō$ in Proto-Tocharian distinguished from an oblique stem $*krāścān-$ from $*krusten-$. The actual Tocharian B form is the result of conflation of the two stems and of transfer to the (PIE) class of $*-ēn \sim *-en-$ (see section 5.315). A stem $krost-$ is still to be seen in the abstract noun in B, $kroštāññe$ (beside $kroścāññe$).
If this explanation is correct for $krośce$, we can also account for the rounding in the second syllable of $kauṛṣe$ (/kewurṣe/) 'bull' [A $kayurṣ$ with dissimilation of the glide] from PTch $*kew-wurso$, obl. $*kew-wārṣān-$, from PIE $*gʷow-wṛsen-$.
11. The rounding here may have been helped by the labial environment provided by the adjacent consonants but it is significant, I think, that such rounding does not occur outside the athematic (Class I) subjunctives which alone have a first person singular in PTch $*-u$ reflecting earlier $*-wā$ (from PIE $*-wi$). The Tocharian B subjunctive $kewu$ 'I will pour' remains an exception as it did for Cowgill (1967:173). For *soy* see now Hilmarsson (1984) and, for another explanation, Winter (1986).
12. The phonetic development would be something on the order of $*oldiHen- > *oldjiyen- > *oljiyen-$, etc.
13. For Proto-Tocharian the initial $T-$ of these formulas includes an initial $R-$.
14. In this regard one should note the comparison advanced by Van Windekens (1963:464-465) of B $/kātñā-/$ 'to strew, spread' with Greek $skidnēmi$ 'I strew' with both being from PIE $*(s)kəd-ne-A-$.
15. For the semantics one should compare Greek $leússō$ 'I see' from the same root.
16. The same rebuilding on the basis of isolated zero-grades took place in A $tāk-$ 'to move, consider' from PIE $*dewk-$ (see Van Windekens, 1976:499-500). So too could PTch $*pānw-$ 'to span' from PIE $*(s)pAnw-$ be considered a normal zero-grade to which a normal o-grade perfect/subjunctive could be made, i.e. PTch $*penw-$.
17. There are certain e 's in Tocharian B which fail to undergo $ā$ -umlaut even though they are in the proper environment. Most can be explained by analogy, e.g., the personal endings of the verb such as $-emār$ where the $-e-$ is retained on the model of $-etār$. In other cases the $-ā-$ may have been added to the word after $ā$ -umlaut had ceased to be productive, e.g., in such Class III preterites as $nekse$ 'he destroyed' from an earlier $*nek(ā)s + ā$. Most difficult to explain are such words as $klena$ 'resounding' where there is no particular reason to regard the $-e-$ as a recent addition. However, these exceptions are to be explained—they are exceptions. The vast majority of e 's subject to $ā$ -umlaut do undergo it. Van Windekens' implicit rejection of the whole rule is most surprising. Winter (p.c.) thinks $ā$ -umlaut must be further constrained but is unsure as to exactly what the constraints must be.
18. The final $*-ā$ was sometimes preserved, or reintroduced, in certain morphological contexts—most noticeably in the first person singular of the preterite, e.g., $tākā$ 'was'. See also the discussion of Winter (1965b:209-210).

19. The same sort of change took place in A *ṣul* 'mountain' [B *ṣale*] from PIE **se/wo-* [Latin *silva* 'forest'].
20. For a different phonetic interpretation of these changes, see Winter, 1977 [1978]:150.
21. For Tocharian A this includes those *ä*'s created by the rule of Vowel Balance from /*ā*/ and /*a*/.
22. And optionally under other unstressed conditions.
23. Van Windekens' **selepos* will account for the phonetic shape of the Tocharian words, but its internal structure is clearly at variance with all the other external cognates. His reconstruction is best abandoned.
24. An *-ā-* of whatever origin is normally assimilated to a following *y* or *w* in Tocharian B.
25. One should note the preservation of the PIE **m* here where it was not directly before a PIE **s* (see section 3.43 and compare B *mīsa* 'meat, flesh' from PIE **mems-*).
26. Winter's auxiliary hypotheses needed to explain the lack of a vocalic reflex in *pārweṣṣe* (1965:204-5) do not carry conviction.
27. Note the difference in outcome between A *klis-* from PTch *klāns-* and PIE **klmH-se/o* and A *kānts-* from PTch **knāsk-* < PIE **ǵnE-skē/o*.
28. PIE **oresA* was originally the plural of the neuter **oros*. The latter appears in B as *ere* (m.) 'appearance' (with an analogical plural, *eri*). The Tocharian A equivalent of *ere* is *arām* from an old derivative **orsno-*. The *-n* in *arām* and the *-n-* or *ersna* are not to be equated etymologically.
29. The etymology for B *āks-ā-* 'to awaken' is based on a suggestion of Van Windekens (1976:159), though he would explain the initial *ā-* differently. It would seem possible to me to explain AB *āks-* 'to announce' from the same source if we assume that the Proto-Indo-European prototype meant something like 'cause to hear'. We might have a PIE **Akus-se/o-* 'cause to hear' beside the **Akows-ye/o-* we find in Greek and Germanic.
30. Another example of a correspondence similar to that of B *šāy-* [A *šo-*] is that between B *ci* and A *cu* 'thee' from PIE **i(e)we*.
31. Though we differ in details, this discussion of the fate of the PIE palatals, labio-velars, and palatals plus **w* is based on Van Windekens, 1969, 1970a, 1970b.
32. One might more readily have expected Tocharian A **sok* like *onk* from PTch **enkwē* 'man'.
33. Any paradigmatic alternation that might have arisen between PTch **k* and **kw* was leveled out, e.g., B *kwās- ~ kwās-* for expected **kwās- ~ *kās-*.
34. One should note the development of Tocharian B *skiyo* 'shadow' from a PIE **skuyōn-* (for **sk(e)w-*, cf. English *sky* and related words in Germanic), i.e., **skuyōn- > *skwāyān- > *skwiyan- > *skiyān-*. Van Windekens (1964:293) and Couvreur (1950:128), who equate this word with Greek *skiā* 'shadow' and Albanian *hije* 'id.' from PIE **skiyā* (or **skiHeA*), must account for the failure of palatalization in Tocharian by unconvincing secondary hypotheses.

35. If in paradigmatic alternation, the **d* might be reintroduced, e.g., B *kātnā-* 'to strew' (PIE **(s)k_ed-ne-A-* [Greek *skidnēmi*]) --cf. the subjunctive stem *kātā-* from the PIE perfect **(s)kodH-* plus *-ā-*.
 36. Van Windekens (1982:10) would see the verbs in *-tk-* as coming from denominative formations built from **-ko-* adjectives where the **-ko-* has been added to verbal roots ending in a dental. His assumption is that PIE **tsk-* yielded either *-sk-* or *-tāsk-* depending on the further phonetic environment, but *-tāsk-* is certainly a later development (with the productive *-āsk-* added to stems ending in dentals) and the one example of *-sk-* has been otherwise explained.
 37. A partial exception to this generalization, one involving derivation rather than inflection, is AB *lānt-* 'king' versus AB *lāntsā-* 'queen'.
 38. One should note that there is no reason to distinguish the palatalized reflexes of PIE **k̥* or **k* from those of PIE **kw* (or **kw̥*) at any stage in Proto-Tocharian.
 39. Palatalization, particularly with respect to its effect on dental obstruents, is a matter of considerable controversy. The account given here, with the division of palatalization into two discrete stages, First Palatalization and Second Palatalization, is a conservative one but one which is by no means universally accepted. There is general agreement that PIE **d* disappears before most resonants. (I would except initial **dr-* and **dj-*. In the former case it may be because PTch [initial] **dr-* had already become, as in Latin, **tr-*, though in Latin the change occurred both initially and medially [Hamp, 1978].) Moreover, all agree that in non-palatalizing environments **t*, **d*, and **dh* all give PTch **t*, and PIE **ty* and **dhy* give PTch **ts* (PIE **dy* having previously given **y*).
- Beyond these well-established developments things get slipperier. In the view followed here PIE **t* went to **ts* early on (First Palatalization) in a palatalizing environment. Analogy might restore a **t* before a front vowel which later became PTch **c* (as a part of Second Palatalization). This *c* may show up later as *ś* under certain, not always clear, conditions, e.g., B *śak* [A *śāk*] 'ten', AB *Aviś* 'hell' (< Skt. *avīci*), AB *mrāś ~ mrāc* 'head' (acc. sg.). Others reject the notion of two palatalizations but do not agree otherwise. Greatly oversimplifying matters, we may say that Winter (1962a) assumes that PIE **t* and **dh* when palatalized give Tocharian **c* but that **d*, including **d* from PIE **dh* by Grassmann's Law (e.g., AB *tsāk-* 'to burn' < **degwh-* < **dhegwh-*), when palatalized gives **ts*. Van Windekens (1976), on the other hand, assumes that PIE **t* and **d* in palatalizing environments give PTch **c* while PIE **dh* gives **ts*. Anreiter (1984), in a work entirely devoted to this question, more radically rejects the notion that Tocharian *ts* ever reflects PIE dentals (except when for the combinations **ty* and **dhy*), which in his view uniformly give **c* in a palatalizing environment and may, under certain circumstances, further develop into *ś*.
40. The final *-s* in Tocharian B has been restored analogically on the basis of the ordinal *škaste* [A *škāšt*].
 41. In both languages we find *-c-* after a nasal rather than the expected **-ś-* from a PIE velar, e.g., B *treñk-* ~ *treñc-* 'to be attached to or suspended from'. Final *-ñc* of whatever origin alternates with *-Ø* in Tocharian A, e.g., the third person plural endings *-i(ñc)*, *-e(ñc)*—but only *wiki* 'twenty', while in Tocharian B it becomes *-m*.

e.g., the third person plural endings *-ām*, *-em*, or *-am* and also the word for 'twenty', *ikām*.

Chapter IV

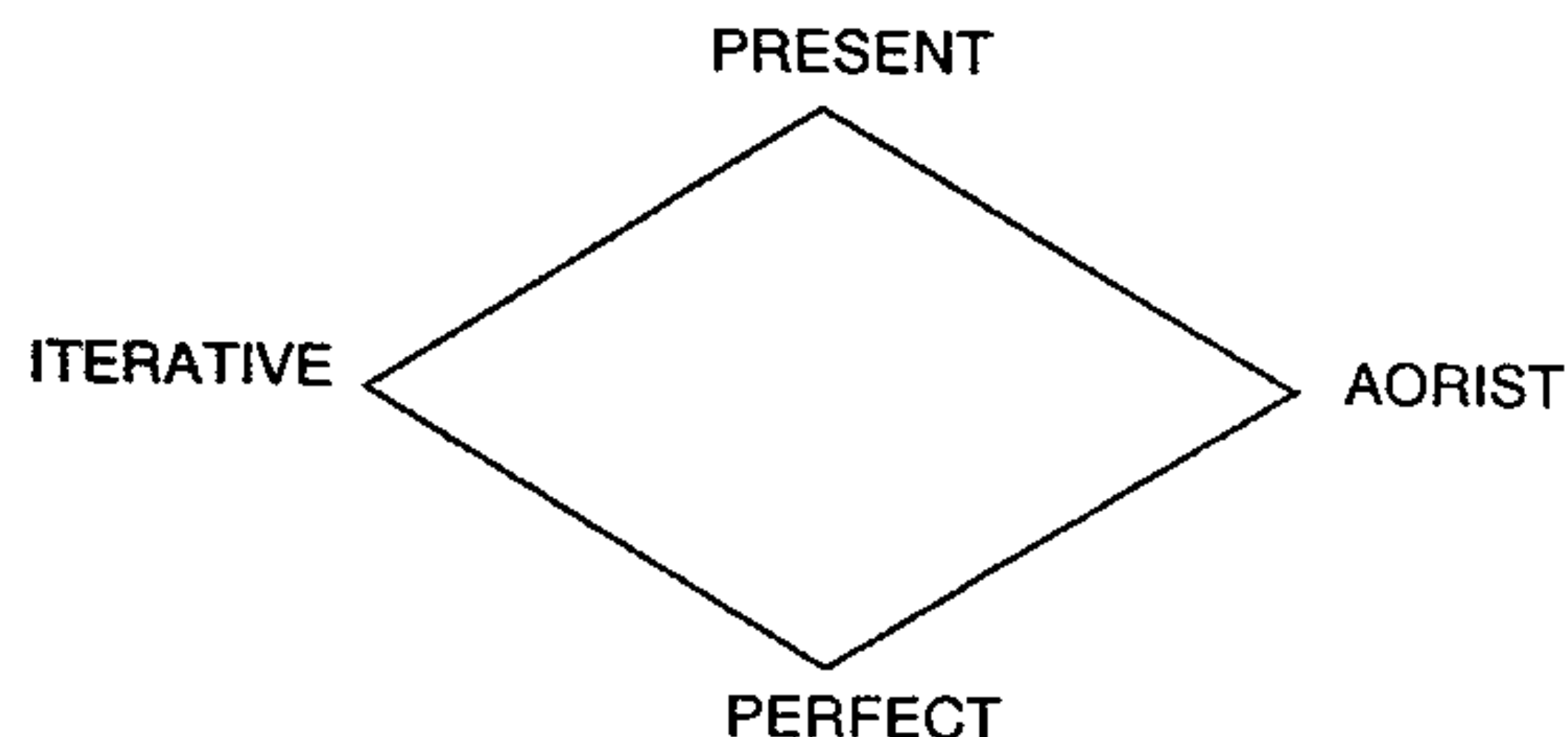
THE VERB

4.0 THE INDO-EUROPEAN BACKGROUND. Comparative and internal reconstruction suggest that early Proto-Indo-European had a fairly simple inflectional morphology coupled with a rich set of derivational affixes.¹ As far back as we can reconstruct, we find Proto-Indo-European inflecting verb stems for person and number, for voice (active versus middle—at least in the third person²), for aspect (non-perfect versus perfect³), and probably for some kind of modal elements (Lehmann, 1972). In this early period tense, present versus past, was probably denoted syntactically by the presence or absence of certain "temporal" adverbs, i.e., the "augment," rather than by inflections. The distinction of aspect, other than that between perfect and non-perfect, was the role of the derivational system. There were a large number of stem-forming affixes, e.g., *-new-*, *-neA-*, *-skelo-*, *-eA-*, etc., which, when added to the verb root, emphasized the on-going nature of the action, its completion, its beginning, etc.⁴

In later stages of Proto-Indo-European these aspectual distinctions, originally only derivational, became welded into unitary paradigms so that most verbs had routinely a "present" stem (i.e., one that was semantically non-aorist and non-perfect), and aorist (describing momentary action), and a perfect (with resultative meaning).⁵ So too had tense become inflectional, at least in the "present" stem in many Proto-Indo-European groups—the past of the present being an imperfect—, and for all groups tense had become an integral part of the verbal system, since the aorist was temporally past whether or not there was a distinction between a (past) aorist and an imperfect.

4.1 THE FUNCTIONAL SHIFTS LEADING TO THE PROTO-TOCHARIAN VERBAL SYSTEM. The result of these developments

was a late Proto-Indo-European verbal system, at least so far as pre-Tocharian is concerned, that was a fairly simple one reminiscent in its functional categories of that reconstructed for Proto-Celtic by Watkins (1962:117). It was a system where a given verb would routinely show a present, an aorist, a perfect, and an iterative.⁶ We can represent the interlocking functions of these four "tenses" in the following manner (after Kurylowicz, 1964:27):



These four categories represented the non-modal portions of the verbal system inherited by Proto-Tocharian.⁷ In addition to these "indicative" tenses, Proto-Tocharian inherited an imperative, an optative, and (just possibly) a subjunctive.⁸

As in the case of Celtic, this system showed certain instabilities. The iterative tended to replace the simple present, e.g., *lukšäm* 'he illuminates' from PIE **luk-se/o-* with one of the common iterative or intensive affixes, though the tendency was far from universal.⁹ The present so displaced might become a subjunctive (and thence an imperative), e.g., *lyušäm* 'he will illuminate' from PIE **lewke/o-* or the *-nā*-subjunctives to *-nā-ske/o-* presents. If the category was not inherited from Proto-Indo-European, this development led to the addition of the subjunctive to the list of moods in early Proto-Tocharian. Where the iterative did not become a regular present, it was normally displaced from the regular aspecto-temporal plane to become a causative.¹⁰

The inherited perfect also showed a tendency to shift its semantic space and impinge on that of the aorist, so that the two formed a new "preterite" category—again as in Irish. It is the contention of

both Kurylowicz and Watkins that in such a clash the old perfect will either disappear or it will oust the old aorist from the new preterite category and make it into a modal category (as happened in Celtic). In the case of Tocharian, however, it would appear that it was the old perfect that could normally take on modal value (though this could happen to the aorist, too), e.g., the ablauting "athematic" subjunctives and imperatives such as B *kewu* 'I will pour,' *kutār* 'it will be poured' or B *ptes* [A *ptas*] 'lay, set!' (sg.), *ptasso* 'id.' (pl.). Where it remained as a preterite, the perfect usually became hopelessly entangled with the sigmatic aorist.

These shifts, once fully accomplished, resulted in a Proto-Tocharian verbal system that looked something like the following:

CAUSATIVE	PRESENT PRETERITE	SUBJUNCTIVE	OPTATIVE	IMPERATIVE
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In both Tocharian A and B, and perhaps in Proto-Tocharian itself, further developments led to the reorganization of this schema so as to give the causative a full set of aspectual and modal forms parallel to the non-causative. Both languages also developed an imperfect (contrasting with the older preterite). In Tocharian B the imperfect is largely the descendant of the Proto-Indo-European optative. This PIE optative also survives, when built on the subjunctive stem, as a Tocharian B optative. In Tocharian A the imperfect is built, in part, of the same (PIE) optatives we see in Tocharian B, but the bulk of the Tocharian A imperfects are (PTch) preterites reanalyzed as imperfects, in contrast to new preterite formations. Thus a Tocharian B *lyāka* 'he saw' may be formally matched by a Tocharian A imperfect *lyāk* 'he was seeing', while the Tocharian B imperfect, *lkāṣṣi* 'he was seeing', is historically an optative built to the present stem, *lākā-ske/o-*. (See Lane, 1953, and for the integration of the various stem types into paradigms in Tocharian A and B, Winter 1980.)

4.2 PERSONAL ENDINGS. The person/number desinences of Tocharian have some times seemed an embarrassment for the comparativist (cf. Lane, 1953:495). If, however, we accept the reconstruction of the Proto-Indo-European verbal system offered by Watkins (1969), and if we keep in mind the functional shifts undergone by the various Proto-Tocharian "tenses," then the history of the Tocharian personal endings can be sketched with little trouble.

4.21 PERSONAL ENDINGS OF THE ACTIVE. Let us start with a recapitulation of the person/number endings of the active (including the perfect) as they may have appeared in a late Proto-Indo-European dialect ancestral to Proto-Tocharian (Table 1).

TABLE 1
PROTO-INDO-EUROPEAN PERSONAL ENDINGS
OF THE ACTIVE

	Athematic		Thematic	
"Primary" [Present]	-mi	-mes(i)	-o-Ae	-o-mes(i)
	-si	-te	-e-tAe	-e-te
	-ti	-nti	-e	-o-nti
"Secondary" [Aorist]	-m	-mes	-o-m	-o-mes
	-s	-te	-e-s	-e-te
	-t	-nt	-e-t	-o-nt
Perfect	-wi	-mesi		
	-stAe	-stesi		
	-e	-r(o)		

This system is itself the product of a long evolution whose two main threads were the gradual divergence of the perfect endings from the "primary" thematic endings¹¹ and the growth of a distinction between the "primary" endings and the "secondary" ones (see Watkins, 1969). The thematic secondary endings in particular are nothing more than the addition of the unextended athematic endings to the thematic vowel. The resultant primary and secondary endings given here are, with the exception of those of the primary singular thematic, the ones almost universally reconstructed for late Proto-Indo-European. The primary singular thematic endings follow Watkins' model, which better explains the actual Tocharian forms than any other.

The endings given for the perfect, however, are not necessarily the same as everyone would reconstruct and need some words of explanation. The third person forms, -e and -r(o), are original (again Watkins, 1969), as is the first person plural -mesi. The other three desinences, -wi, -stAe, and -stesi, occur where one might expect to find -Ae, -tAe, and -(t)e. The -s- of the second person comes from the reassignment of an -s- enlargement (presumably in origin the

same as the typical aorist -s-) from stem to desinence. It is exactly the same process we see in one of the paradigms, shown in Table 2, which gave rise to the Latin perfect (cf. Watkins, 1969:156).

TABLE 2
PRE-LATIN AND PRE-TOCHARIAN
PERFECT ENDINGS

		Pre-Latin	Pre-Tocharian
Singular	1.		
	2.	-istai	-(i)sta
	3.	-is (?)	-(i)s (?)
Plural	1.		
	2.	-iste(s)	-(i)stesi
	3.	-r-ont	-r(o)

The parallelism between Italic and Tocharian on this point is striking and surely the result of some common development.

The first person singular represents another enlargement, -w-, seen most clearly in the first and third persons singular in Sanskrit in such perfects as *paprau* (*peplē-w). In Tocharian it is restricted to the first person and has added to it the *hic et nunc* particle -i. (Compare the Latin second person singular with -i.)

Regular phonological change should have transformed these endings into the array in early Proto-Tocharian shown in Table 3. The phonological changes would, by themselves, have contributed to a great deal of instability in the inherited pattern (note, for instance, all the zero endings among the secondary athematics), but the functional shifts which made bedfellows of so many formerly functionally distinct types were an open invitation to mutual influence. For example, in the new subjunctive we might expect old athematic presents and aorists, old thematic presents, and old perfects side by side. Similarly, the new preterite category would have been shared by thematic and athematic aorists as well as old perfects. Predictably the result was a good deal of leveling in several directions.

4.211 THE PROTO-TOCHARIAN PRESENT AND SUBJUNCTIVE: "PRIMARY ENDINGS." Let us turn our attention first to the Proto-Tocharian present and subjunctive, which shared a single set of "pri-

TABLE 3
EXPECTED EARLY PROTO-TOCHARIAN
PERSONAL ENDINGS (ACTIVE)

	Athematic		Thematic	
"Primary"	-mjā -sjā -tjā	-mjā(sā) -tjā -ntjā	-e -jātā -jā	-emjā(sā) -jātjā -entjā
"Secondary" ~	Ø /V____ -ā /C____ -Ø -Ø	-mjā -tjā -Ø	-e -jā -jā	-emjā -jātjā -e
Perfect	-wā -stā -jā	-mjā -sā ¹² -r(e)		

mary" endings. Among the athematic endings, the primary endings of the second and third persons singular disappeared without a trace; conversely, the first person singular and third person plural show only the primary endings, the secondary ones having vanished. Among the thematic endings we find the second person singular, shorn of the thematic vowel (i.e., as -tā), extended to the originally athematic conjugations. The Proto-Tocharian present and subjunctive had then only two sets of endings: one athematic, one thematic (Table 4).

TABLE 4
LATER PROTO-TOCHARIAN PERSONAL ENDINGS
OF THE ACTIVE PRESENT AND SUBJUNCTIVE

Athematic		Thematic	
-(ā)mjā ~ -(ā)wā ¹³	-(ā)mjā(sā)	-emjā ~ -ewā	-emjā(sā)
(ā)tā	-(ā)tjā	-jātā	-jātjā
-Ø	-(ā)ntjā	-jā	-entjā

In both conjugations the first person singular had two forms. Side by side in the athematic conjugation were the first person singulars of the old primary athematic and of the old perfect. The thematic

conjugation shows corresponding endings, analogically created by adding the normal athematic ones to the (undercharacterized) Proto-Tocharian *-e from Proto-Indo-European *-ō. In Tocharian A the *(e)wā forms of the first person entirely disappeared, while in Tocharian B it was the *(e)mjā which disappeared except in the imperfect/optative and in one form of the present/subjunctive: *yam* [A *yām*] 'I (will) go' (as if) from PIE *i-mi (with generalization of the weak grade of the root *ey-).

The first person plural also had two forms. Both the "primary" (with *-sā) and the "secondary" endings evidently survived into Proto-Tocharian. As was the case in the corresponding singular, Tocharian A generalized the "primary" endings, while Tocharian B generalized the "secondary" ones. Finally, we should note that Tocharian B showed a strong tendency to extend those thematic endings which had the thematic vowel -e- at the expense of the corresponding athematic endings. Otherwise the actually attested forms of Tocharian A and B are the expected phonological reflexes of Proto-Tocharian endings (Table 5).

TABLE 5
TOCHARIAN PERSONAL ENDINGS OF THE
ACTIVE PRESENT AND SUBJUNCTIVE

	TOCHARIAN A		TOCHARIAN B	
	Athematic	Thematic	Athematic	Thematic
Sg. 1.	-(ā)m	-am	-u (-m)	-e _u (later -au)
2.	-(ā)t	-t ¹⁴	-(ā)t(o)	-t(o)
3.	-(ā)s	-(ā)s	-(ā)m	-(ā)m
Pl. 1.	-mās	-amās	-(ā)m(o)	-em(o)
2.	-c	-c	-(ā)cer ¹⁵	-(ā)cer
3.	-(i)ñc ¹⁶	-eñc	-(ā)m	-em

The Tocharian A athematic endings from this list appear without change in the optative. In Tocharian B, on the other hand, the optative, and the formally identical imperfect, show the thematic endings—except for the first person singular, which has the athematic -m. (The third person singular has no final -m.) Tocharian A surely preserves the older, Proto-Tocharian, state of affairs here, whereas Tocharian B shows the same generalization of the thematic endings

without -e- mentioned in the previous paragraph (one should note that there was no Tocharian B **-em* to generalize in the first person singular).

4.212 THIRD PERSON SINGULAR DESINENCES: A -*ṣ*, B -*ṃ*. The actual third person singular desinences, -*ṣ* in A and -*ṃ* in B, need further clarification. Discussions which see these as relics of PIE morphology, most notably Krause (1951), who sees Tocharian A -*ṣ* as the Tocharian development of PIE **-si* (the second person singular) and B -*ṃ* as the regular development of PIE **-nt* (third person plural), must be rejected. The phonological development might be possible, though I would have expected PIE **-si* to have given Tocharian -*s* (cf. the development of PIE **-mesi* [see section 3.11]), but the semantic shifts are highly unlikely. Already in 1941 (pg. 142), Pedersen had seen that both endings must be in origin enclitics. The enclitic elements are normally equated with the Proto-Indo-European pronominal stems **se/o-* and **ne/o-* (cf. Watkins, 1969:204). This equation might be correct for Tocharian A -*ṣ*, but it is phonologically impossible to derive Tocharian B -*ṃ* from either PIE **ne-* (which would have given **-ñ*) or **no-* (which would have given, as it did in the third person singular suffixed pronoun [see section 6.17], -*ne*). More likely for B, and as likely as the traditional explanation for A, would be to see these enclitic elements not as pronouns but as sentence connectives, i.e., PIE **nu* and **se*. For Tocharian B such an explanation not only accounts for the phonology but also for the restriction of the third person singular -*ṃ* to the non-past tenses, as befits **nu*'s association with the meaning 'now'.¹⁷

4.213 ENDINGS OF THE PRETERITE: "SECONDARY ENDINGS."

The history of the personal endings in the newly formed preterite category was similar to that seen in the present and subjunctive. In this case, however, it was the old perfect which played a commanding role. The perfect and athematic aorist endings, juxtaposed in the new preterite, are given again in Table 6 in their early Proto-Tocharian guise for reference.

Given the plethora of zero-endings in the athematic aorist, it was perhaps foreordained that the endings of the perfect would extend themselves at the expense of those in the aorist. The most important exception to this generalization is the loss of the old third person singular ending in **-jā* (PIE **-e*) at the expense of the zero-ending of the aorist. Tocharian B shows the complete penetration of the first person perfect ending at the expense of the corresponding ending in

TABLE 6
PROTO-TOCHARIAN
"SECONDARY" ENDINGS

		Perfect	Athematic Aorist
Singular	1.	-wā	-Ø
	2.	-stā	-Ø
	3.	-jā	-Ø
Plural	1.	-mjā	-mjā
	2.	-sā	-tjā
	3.	-r(e)	-Ø

the aorist, while Tocharian A shows only a partial replacement (cf. the similar situation with regard to the middle endings, section 4.22). Even the second person plural ending of the perfect replaced the transparent aorist ending. Surprising, too, is the addition of **-ā* to the already characterized first and second persons singular. It is presumably the stem vowel of the third person singular *ā*-aorist, but the analogical mechanism for its spread outside of the third person is none too clear.¹⁸ Not so surprising is the extension of the longer form -*mās* in the first person plural of Tocharian A, since it was also extended in all other tenses (Table 7).

TABLE 7
LATER PROTO-TOCHARIAN
PRETERITE ENDINGS

Singular	1.	-(ā)wā	-Ø	[A -wā, -Ø; B -wā]
	2.	-(ā)stā		[A -(ā)st; B -(ā)stā]
	3.	-Ø		[AB -Ø]
Plural	1.	-(ā)mjā(sā)		[A -mās; B -(ā)m(o)]
	2.	-sā		[A -(ā)s; B -(ā)s(o)]
	3.	-(ā)re		[A -(ā)r; B -ār, -re]

One Proto-Indo-European formal type with preterite meaning in Proto-Tocharian that was not rebuilt on the usual model provided by the perfect (and athematic aorist) was the thematic aorist, which is represented in Tocharian B by the preterite of the two roots, *kām-* 'to come' and *lā(n)t-* 'to come out'.¹⁹ The Proto-Indo-European conju

gation of **Eludh-* is given in Table 8, along with the phonologically regular (underlying) forms we would expect in Tocharian B; finally, the underlying and actual forms of Tocharian B are given.

TABLE 8
DEVELOPMENTS OF THE THEMATIC AORIST IN TOCHARIAN B

	PIE	Expected Tocharian B	Underlying Tocharian B ²⁰	Actual Tocharian B
Sg. 1.	<i>Eludhóm</i>	<i>lāte</i>	<i>lāte[w]</i>	<i>latau</i>
2.	<i>Eludhés</i>	<i>lācā</i>	<i>lāt (<lācā[tā])²¹</i>	<i>lat</i>
3.	<i>Eludhét</i>	<i>lācā</i>	<i>lācā</i>	<i>lac</i>
Pl. 1.	<i>Eludhhóme</i>	<i>lātemā</i>	<i>lātemā</i>	<i>ltem^a</i>
2.	<i>Eludhête</i>	<i>lācācā</i>	<i>lātsā (<lācā[sā])</i>	<i>latso</i>
3.	<i>Eludhónt</i>	<i>lāte</i>	<i>lāte[m]</i>	<i>latem</i>

^acf. *e-kmem* 'we came forth'

As one can readily see, the actual Tocharian B forms can be derived from the expected ones merely by the addition of certain regular endings (which appear within square brackets in Table 8). The one exception is the second person plural, where there appears to have been an actual substitution of the regular Tocharian B preterite ending for the inherited type of the thematic aorist.

4.22 PERSONAL ENDINGS OF THE MIDDLE. Another Proto-Indo-European verbal category whose ultimate origin is similar to if not identical with the perfect and the thematic present is the middle. The oldest, distinctively middle, state of affairs we can recover for Proto-Indo-European shows a third person singular in *-o and plural in *-ro, e.g., (with the addition of the particle *-i) Sanskrit sg. *duhé*, pl. *duhré* or (augmented and with the addition of the regular third person endings *-t and *-nt) sg. *áduhat*, pl. *áduhran*. These Sanskrit forms presuppose PIE **dhughó* and **dughró* (Watkins, 1969:88-93). It is exactly this schema which is represented by the archaic, and third person only, paradigm of the Tocharian B copula: sg. *ste*, pl. *stare* from PIE **stAó*, **stAró*. These Tocharian forms are more or less exactly matched, save for the augment and the addition of the regular endings, by the Sanskrit aorist vy *ásthat* and plural *ásthiran*.²²

Already by late Proto-Indo-European times there developed a strong tendency to renew these middle endings on the basis of the active athematic endings, with the result that the third person forms had come to be *-to and *-nto. This plural is seen most clearly in Tocharian in the alternate form of the Tocharian B plural copula: *skente* from PIE **s-sko-nto* (Watkins, 1969:200 and Van Windekens, 1982:76).²³

A complete middle paradigm in the late Proto-Indo-European dialect ancestral to Tocharian might have looked something like that shown in Table 9. It would appear that the first and second persons

TABLE 9
LATE PROTO-INDO-EUROPEAN MIDDLE ENDINGS

Singular 1.	-Ae	Plural 1.	-medha ²⁴
2.	-tAe	2.	-dhu(om)
3.	-to	3.	-nto

singular could be optionally followed by the particle *-i and that all persons could be optionally followed by *-r.²⁵ The forms with the added *-r were specialized to "primary" tenses, i.e., presents and optatives, while the others were relegated to "secondary" tenses, i.e., imperfects and aorists. The resultant paradigms are given in Table 10.

TABLE 10
LATE PROTO-INDO-EUROPEAN "PRIMARY" AND
"SECONDARY" ENDINGS OF THE MIDDLE

"Primary"	Sg. 1.	-Ae-r	Pl. 1.	-medha-r
	2.	-tAe-r	2.	-dhu-r
	3.	-to-r	3.	-nto-r
"Secondary"	Sg. 1.	-Ae-i	Pl. 1.	-medha
	2.	-tAe-i	2.	-dhu
	3.	-to	3.	-nto

The thematic middle shows the same set of endings but with the thematic vowel prefixed to them. In the earliest thematic middle that Tocharian gives any evidence for, the thematic vowel was always *-o- (preserved in the Tocharian A and B present Classes III and IV). Later middles, those linked productively to active verbs, show the

same distribution of *-e- and *-o- as does the active. Because the "secondary" middle endings appear only in the preterite and because the preterite middle always shows the tense sign -ā- (which demands athematic endings), the thematic middle appears only in the "primary" endings. The one exception is the copula *skente* in Tocharian B from PIE *s-skō-nto.²⁶

As the result of regular phonetic change, these middle endings would have appeared in Proto-Tocharian under the guises shown in Table 11. These endings formed a more coherent system in Proto-

TABLE 11
PROTO-TOCHARIAN MIDDLE ENDINGS

	Athematic		Thematic 27	
"Primary"	-ār	-mjātār	-ār	-emjātār
	-tār	-tār	-etār	-etār
	-tār	-ntār	-etār	-entār
"Secondary"	-āy	-mjātā		
	-tāy	-tā		
	-te	-nte		

Tocharian than did the corresponding active ones, and for this reason, and because the Proto-Indo-European perfect that Tocharian inherited did not have any separate middle forms, the functional shifts resulting from the rearrangement of the Proto-Tocharian verb vis-à-vis its Proto-Indo-European antecedents did not have the repercussions among the middle endings that it did among the active ones. The primary endings, those of the Proto-Indo-European present, were extended to those perfects and aorists that had become Proto-Tocharian subjunctives. The only endings available to the newly constituted preterite were the secondary endings of the aorist.

Some innovations did take place, however, in Proto-Tocharian. Thus the first person plural of the secondary endings was refashioned to *-mjāte on the analogy of the third person plural: *-ntār : *-nte :: *-mjātār : X. The primary ending of the first person singular was, as in so many Indo-European languages, rebuilt on the model of the active with the intercalation of an *-m-, e.g., *(e)mār. Similarly, the corresponding secondary ending in Tocharian B was refashioned to *(e)mai, while in Tocharian A, on the basis of a somewhat

different analogical pattern, it was rebuilt as *-wai [A -we]. Tocharian A also shows palatalization of the second person plural on the model of the corresponding active endings (Table 12).

TABLE 12
MIDDLE ENDINGS IN TOCHARIAN A AND B

	TOCHARIAN A	TOCHARIAN B
"Primary" 28	Sg. 1.	-mār
	2.	-tār
	3.	-tār
	Pl. 1.	-mtār
	2.	-cār
	3.	-ntār
"Secondary"	Sg. 1.	-e ~ -we
	2.	-te
	3.	-t
	Pl. 1.	-māt
	2.	-c
	3.	-nt

4.23 THE ENDINGS OF THE IMPERATIVE. The normal second person singular imperative in Proto-Indo-European was the bare stem, while the second person plural was the bare stem plus *-t- (just as in the indicative). Thus we might have *es(te) 'be!' or *āge(te) 'lead!'. Such imperatives have almost disappeared in Tocharian being replaced by modalized perfects or aorists. The old athematic imperative has left no descendants and the thematic only one or two. The clearest survival is Tocharian B *klyauṣ* 'hear!' from a Pl. *kīwse. Probably included in this tiny group of survivals is Tocharian B *poñ* 'say!', though the phonological history of this word is not clear (vid. Winter, 1977[1978]).²⁹ Watkins (1969:208) has also identified as an old thematic imperative those Tocharian B imperative ending in -e, e.g., *ptālle-ñ* 'lift me up!' or *pete* 'give!' from Pl. *tīnAo or *dOo respectively, with the same *-o seen in the copula *ste*. (One must remember that while the zero-ending of the indicative is the third person singular, in the imperative it is the second person singular.)

While the actual Proto-Indo-European imperative has left few relics, the system whereby the singular imperative is the bare stem remains intact. To this bare stem, which is, more often than not, identical with that of the preterite, is added the second person plural ending of the preterite (PTch *-sā) to form the plural imperative active. The imperative middle is the bare stem plus -r in the singular and the bare stem plus the second person plural middle ending of the preterite in the plural (Table 13).

TABLE 13
IMPERATIVE ENDINGS IN TOCHARIAN A AND B

		TOCHARIAN A	TOCHARIAN B
ACTIVE	Sg.	<i>pkal</i>	<i>pkāla</i>
	Pl.	<i>pāklās</i>	<i>pkalas</i>
MIDDLE	Sg.	<i>pāklār</i>	<i>pkalar</i>
	Pl.	<i>pāklāc</i>	<i>pkalat</i>

More noteworthy than the endings of the imperative is its prefix, *pā-* or *pe-*, which sets the imperative apart from other verbal categories. As has often been pointed out, this prefix is to be equated with either Hittite *pe-* (PIE **pē-*) or Slavic *po-* (PIE **po-*), and it is essentially the only remnant of the rich PIE system of derivational adverbs to survive in Tocharian as an integral part of verbal morphology.³⁰

4.24 THE ENDINGS OF THE DUAL. As with the noun, the Tocharian verb shows three numbers, a dual as well as a singular and plural. The verbal dual is not well attested in our documents: Tocharian A has only a single form, *tākenas* 'the two of them were' and Tocharian B only six. (Dual nouns were not particularly rare in Tocharian, but they might take plural rather than dual concord—rarely with modifying adjectives but commonly with verbal predicates.) Save for the middle imperative, only third person forms are attested in Tocharian, and even among them there are lacunae.

In the active present Tocharian B attests two third person dual verbs: *nestem* 'the two of them are' [B 23b4] and *westem* 'the two of them speak' [Krause and Thomas, 1960:177] (as if) from PIE **ndo* 's-tom nu (cf. Hamp, 1980:344) for the athematic and **wokwske-tom nu* for the thematic [: Greek -(e)ton]. In the middle

present only the thematic form is attested: *tasaitār* (/tāseytār/) 'the two of them compare' (Schmidt, 1975:287-290). As Schmidt points out, this ending is the more or less exact equivalent of the Sanskrit -ete. The Sanskrit form presupposes a PIE **oytoy*, while Tocharian B presupposes a PIE **oytor*. The third person singular dual, and plural make a nicely segmentable triad: **e/o-to*, **o-y-to* and **o-n-to*.

The *-y- that appears in the thematic middle reappears in both the middle and active of the "secondary" endings, i.e., those of the preterite and imperative. The lacunae in these categories are more extensive than is the case for the endings of the present and subjunctive, but the overall pattern allows fairly certain reconstruction (Table 14).

TABLE 14
DUAL ENDINGS IN TOCHARIAN B

		Single	Dual	Plural
ACTIVE	2nd Imp.	-Ø		-sā
	2nd Pret.	-stā		-sā
	3rd Pret.	-Ø	-ysā	-r(e)
MIDDLE	2nd Imp.	-Ø-r	-ytā	-tā
	2nd Pret.	-tai		-ta
	3rd Pret.	-te		-nte

The actual forms attested are *stāmais* 'the two of them stood' [B 338b7], *Itais* 'the two of them went out' [B 88b5], and *pyamttsa* 'make for yourselves' (dual) [B 295a9]. Given the neat phonological relationship between the actually attested duals and the second person plural (both imperative and preterite—i.e., -ysā : -sā :: -ytā : -tā), it seems very likely that the active dual for both second and third person is -ysā and, similarly, the middle dual is -ytā for both.

The only dual attested in Tocharian A, *tākenas* 'the two of them were', also shows an -y-, i.e., /tākā-y-/ and the -s characteristic of the corresponding form in Tocharian B. The -nā- or -na- that lie between the more familiar pieces of the ending is, however, unexplained.³²

4.3 PROTO-INDO-EUROPEAN PRESENT CLASSES: ATHEMATIC PRESENTS. Proto-Tocharian inherited most of the varieties

of athematic presents to be seen in Proto-Indo-European, including root presents, reduplicated presents, presents in $^{*}(n)eA-$, and athematic nasal presents. Some of these varieties were still productive verbal formations in the contemporary Tocharian languages, e.g., presents in $^{*}eA-$ or $^{*}neA-$, while others, for instance reduplicated presents, were as moribund as can be.

4.31 ATHEMATIC ROOT PRESENTS. This Proto-Indo-European class includes both indicatives and subjunctives (i.e., displaced indicatives) in the two Tocharian languages. They form Krause and Thomas' Class I presents and subjunctives, and the normal paradigm appears in such verbs as AB *pālk-* 'lighten, illuminate', A *trānk-* 'to say' or the Tocharian B subjunctive of *yām-* 'to do, make' (Table 15).

TABLE 15
CLASS I (PIE ATHEMATICS)

		TOCHARIAN B		TOCHARIAN A	
ACTIVE	Sg. 1.	<i>palkau</i> ^a	<i>yāmu</i>	<i>pālkām</i>	<i>trānkām</i>
	2.	<i>palkāt</i> ^b	<i>yāmt(o)</i>	<i>pālkāt</i>	<i>trānkāt</i>
	3.	<i>palkām</i>	<i>yāmām</i>	<i>pālkāṣ</i>	<i>trānkāṣ</i>
	Du. 3.	<i>pālkter</i>	<i>yāmter</i> ^c		
	Pl. 1.	<i>pālkem(o)</i> ^d	<i>yamem(o)</i> ^d	<i>pālkmās</i>	<i>trānkmās</i>
	2.	<i>pālcet</i> ^e	<i>yāmcet</i> ^e	<i>pālkāc</i> ^g	<i>trānkāc</i> ^g
	3.	<i>pālkem</i> ^f	<i>yamem</i>	<i>pālkiñc</i>	<i>trānkiñc</i>
				(< $^{*}āñc$)	
MIDDLE	Sg. 1.		<i>yāmmar</i>		<i>trānkmār</i>
	2.		<i>yāmtar</i>		<i>trānktār</i> ^h
	3.		<i>yāmtār</i>		<i>trānktār</i>
	Pl. 1.		<i>yamamt(t)ār</i>		<i>trānkāmtār</i>
	2.		<i>yāmtār*</i>		<i>trānkcār</i> ⁱ
	3.		<i>yamantār</i>		<i>trānkāntār</i>

^acf. possibly *nesau* 'I am'.

^bcf. *nest* 'thou art', *yat* 'thou goest'.

^ccf. *nestem*.

^dcf. *nesem*.

^ecf. *nescer/nescer, yacer*.

^fcf. *salper* 'they glow'.

^gcf. *yāc* 'you go', *kāckāc* 'you enjoy yourselves', *cāmpāc* 'you can'.

^hcf. *šer(t)ār* 'thou criest'.

ⁱcf. *šercār* ($^{*}šert-cār$) 'you cry'.

The Tocharian B paradigm shows the extensive influence of the originally thematic endings with the thematic vowel $-e-$ (sec-

tion 4.211), though relics of the phonologically expected form appear in first pl. subj. *ruwām* 'we will open', third pl. subj. *aiṃ* 'they will give', or third pl. ind. *nesām* 'they are'. In the first person singular we sometimes see $-au$, e.g., *nesau* 'I am' and sometimes $-u$, as always in the subjunctive, e.g., *yoku* 'I will drink'. Only *yam* 'I (will) go' (both indicative and subjunctive) shows an ending directly comparable with that of Tocharian A.

In this archaic class we might expect to see traces of PIE $^{*}e-$ or $^{*}Ø-$ ablaut, e.g., $^{*}bhlég-mi \sim ^{*}bhlg-mé$, but this seems to have been leveled everywhere—normally at the expense of the e -grade. Thus we have AB *pālk-* 'to lighten, illuminate' from PIE $^{*}bhlg-$ and not $^{*}plyāk-$ or $^{*}pālyk-$ (cf. Latin *fulgor* 'I flash' but Greek *phlégō* 'I burn') or B *yam* [A *yām*] 'I (will) go' from a pre-Tocharian $^{*}i-mi$, replacing an earlier (PIE) $^{*}ey-mi$.³³

4.32 ATHEMATIC REDUPLICATED PRESENTS. The only survivor of the Proto-Indo-European reduplicated presents is to be seen in one of the two Tocharian B subjunctives stems for the verb meaning 'to lay, set', namely *tāttā-*. This *tāttā-* is from PIE $^{*}dhidhE-$ with the weak grade generalized as in the other root athematics (e.g. $^{*}dhidhEmi$, etc.; for the phonology see section 3.2). Tocharian probably shows the same formation shorn of its anomalous, from the Tocharian point of view, reduplication in one of the two subjunctive stems to this verb: *tā-*.³⁴

In neither language is a full paradigm attested. In Tocharian B we find, besides the preterite participle *tāttā*, and abstract *tāttālne*, only third person forms of the subjunctive: active *tattam* (sg./pl.) and middle *tāttātār* (sg.) and *tāttāntār* (pl.). In Tocharian A the attestation is even more meager: a preterite participle *to*, the abstract *tālun* and a third person singular optative *tāwiṣ*. The only optative attested in Tocharian B is the synchronically irregular *taccimar* (first sg. middle). It would appear to be an old $^{*}dhE-iE-$ rebuilt with reduplication, i.e., as if from PIE $^{*}dhidhEiE-$.

4.33 ATHEMATIC PRESENTS IN $^{*}eA-$. This Proto-Indo-European variety of present appears as Krause and Thomas' Class V presents and subjunctives in both Tocharian languages (Table 16). Examples include AB *lākā-* 'to see' (PIE $^{*}luk-eA-$), which is indicative in A but subjunctive in B, or AB *śuwā-* 'to eat' (PIE $^{*}gyuH-eA-$), which is indicative in A and both indicative and subjunctive in B (which, in this case, is the older situation).

TABLE 16
CLASS V (PIE *-eA-)

	TOCHARIAN B	TOCHARIAN A
ACTIVE Sg. 1.	<i>lakai</i> <i>śuwau</i>	<i>lkām</i> <i>śwām</i>
2.	<i>lkāt(o)</i> <i>śwāt(o)</i>	<i>lkāt</i> <i>śwāt</i>
3.	<i>lakam</i> <i>śuwam</i>	<i>lkāṣ</i> <i>śwāṣ</i>
Du. 3.	<i>lkātem*</i>	
Pl. 1.	<i>lkām(o)</i> <i>śwām(o)</i>	<i>lkāmās*</i> <i>śwāmās*</i>
2.	<i>lkācer</i> <i>śwācer</i>	<i>lkāc</i> <i>śwāc</i>
3.	<i>lakam</i> <i>śuwam</i>	<i>lkeñc</i> <i>śweñc</i> (< *āñc)
MIDDLE Sg. 1.	<i>lkāmar</i> ^a	<i>lkāmār*</i>
2.	<i>lkātār</i> ^b	<i>lkātār*</i>
3.	<i>lkātār</i> <i>śwātār</i>	<i>lkātār</i>
Pl. 1.	<i>lkāmt(t)ār*</i>	<i>lkāmtār*</i>
2.	<i>lkātār*</i>	<i>lkācār*</i>
3.	<i>lkāntār</i> <i>śwāntār</i>	<i>lkāntār</i>

^acf. *kyānamar* 'I will be fulfilled', *kālamār* 'I will be lead', etc.

^bcf. *kalatar* 'thou wilt be lead'.

Functionally Proto-Indo-European verbs in *-ā- (*-eA-) fell into two classes: (1) denominatives (factatives), and (2) deverbatives. The second group was itself composed of two subgroups: (a) disyllabic verb roots whose last consonant was *-A [; Greek *édrān* 'he ran away'], and (b) new verb stems formed by the addition of an *-ā- (*-eA-) to a verb root [; Latin *dicāre* 'to consecrate' versus *dīcere* 'to say'—in Proto-Indo-European terms *dīk-eA- versus *deyk-e/o-].³⁵

4.331 DENOMINATIVE VERBS (FACTATIVES) IN *-eA-. The Proto-Indo-European factatives show up in Tocharian usually as true denominatives formed from nominal stems (cf. the more usual Indo-European situation seen, residually, in Greek *neān* 'to replot' or more generally in Latin *novāre* 'to renew' where the derivation is from adjectives). Without exception the base nouns for the Tocharian denominatives are PIE o-stems of the *tomos* type, e.g., B *klenke* 'vehicle' → *klānkā* 'to ride, travel'. The only deadjectival formation, B *swārā* 'to please', is also based on an o-stem, B *swāre* 'sweet' (PIE *swādrós). This derivational process must have been productive

until fairly late in the history of Tocharian but it was apparently moribund by the time of our texts.³⁶ The present stem formed by this process was subject from Proto-Tocharian times onward to being restricted to subjunctive use in the face of new, analogical, presents. These new presents were either Class IV (section 4.42) or Class V (-nā-, section 4.342), e.g., B *klautke* 'manner, way' → (subj.) *klāutkā* 'to turn, become' → (indic.) *klautko-*, or *skeye* 'effort' → (subj.) *skāyā* 'to strive' → (indic.) *skāinā*.

4.332 DEVERBATIVE VERBS IN *-eA-. Of the deverbative ā-stems in Tocharian, none is apparently of the first PIE subgroup where the root itself ended in -A (though see section 4.342). Thus all the deverbative ā-stems in Tocharian are derived, e.g., B *kwā* 'to call' (PIE *ǵhuH-eA- [; OCS *hūvati* 'to call' or Avestan *zbātār* 'caller'] or / *ksā* 'to blind, dazzle' (PIE *(z)gws-eA-, derived from *(z)gwes- 'to extinguish' [; AB *kās* 'to extinguish']):³⁷

It would appear that the *-ā- could be added to roots containing either a full-grade (*-e-) or a zero-grade. In the first group we have B *ānā-sk* 'to inhale, breathe' (PIE *AenE-eA-[*skē/o-*]), B *ālā-sk* 'to be sick' (PIE *Ael-eA-[*skē/o-*]), cf. Hittite *allaniya-* 'get (over)heated hot' [Berman and Hamp, 1982]) and B *iyā* [A *yā*- by secondary apocope] 'to lead' (PIE *[E]ey-eA- [; Hittite *iya-* 'to go, walk']). Stems with zero-grade in the root include earlier examples (AB *lākā*-, A *śuwa*-, B *kwā*-, A *ksā*-), as well as B *twā* 'to enkindle' (PIE *dhu[H]-eA-)³⁸ or B *pālwā* 'to bemoan' (PIE *bh[w]-eA-). Indeterminate as to the root vowel are B *piyā* 'to sing' (PIE *p[e]y-eA-) or *lyyā* 'to wipe off' (PIE *liH-eA- or *leyH-eA-). Outside of Tocharian the verbs with full-grade resemble Latin *consternāre* 'to reverse' beside *sternere* 'to turn' as well as Hittite *iya-*, Luvian *aya-*, while the verb with zero-grade are like Latin *dicāre* or *ē-ducāre* 'to teach' beside *dūcere* 'to lead'.³⁹

It is generally assumed that this deverbative *-ā had an intensive meaning in Proto-Indo-European. Such a meaning has become much attenuated in the surviving Tocharian examples though where etymologically related verb stems remain, one extended by -ā- and the other not, it is possible to see traces of such a semantic distinction, e.g., A *kāsā* 'to blind, dazzle' beside AB *kās* 'to extinguish', or B *iyā* [A *yā*-] 'to lead' beside AB *i-* 'to go'.⁴⁰

4.34 NASAL PRESENTS. In Late Proto-Indo-European there were three verbal stem formatives with a nasal: (1) an ablauting *-ne- ~ *-n-

infixes into roots of the PIE shape **CRC-* (i.e., **CRneC-* ~ **CRnC-*); (2) the suffix **-neA-* ~ *-nA-*; and (3) the suffix **-new-* ~ **-nu-*. In origin the latter two types are subsets of the first—formed by infixation from roots whose last consonants were **-A* and **-w* respectively. They had, however, become independent suffixes which could be added to other roots. All three types apparently shared the same semantic specification, possibly one of inchoative or terminative aspect, and were to a certain extent interchangeable. This interchangeability can be seen within a particular Indo-European language, e.g., the interchange of *-nā-* and *-no-* presents in Sanskrit or the variation of Tocharian B *kāttānk-/kātknā-* 'to pass by/through', or by comparison between groups, e.g., Tocharian *siknā-* 'to set foot' but Greek *hikáno*, *hiknéomai* 'I come to, reach', which are alternate thematizations of a **-new-* ~ **-nu-* verb. Only the infixed variety and the **-neA-* type survive in Tocharian.

4.341 INFIXED NASAL PRESENTS. The inherited infixed type survives only in Tocharian B. Already in late Proto-Indo-European the nasal infix showed a particular affinity for roots ending in a velar consonant. In Tocharian B this affinity had become a rule; there is only one root which shows the infix and yet does not end in *-k*, namely *pārs-* (i.e., *prānts-* 'to spatter' [intr.]—cf. *pārsnā-* 'to sprinkle' [tr.]). The number of words showing a nasal infix was much increased by a Proto-Tocharian phonological metathesis of **-tknā-* to **-tnkā-*. The latter situation remained unchanged in Tocharian A, but in B these verbs were transferred to the athematic conjugation, thereby falling together completely with the inherited infixed group.

The formation remains athematic in Tocharian B (with the zero-grade of the ablauting infix generalized as in Latin) but in almost every case we find the generalization of those thematic endings with *-e-* at the expense of the inherited athematic endings⁴¹ (see section 4.211). As an example of this type we can give the active conjugation of the present indicative of *pik-* 'to write, paint' (Table 17).

TABLE 17
CLASS VII (PIE NASAL INFIX)

Sg. 1.	<i>piñkau*</i>	Pl. 1.	<i>piñkem(o)*</i>
2.	<i>piñkāt</i>	2.	<i>piñkcer*</i>
3.	<i>piñkāṃ</i>	3.	<i>piñkem^a</i>

^acf. *rāttāñkem* 'they heal', *puttāñkem* 'they share'.

4.342 NASAL PRESENT IN **-neA-* ~ **-nA-*. Proto-Indo-European **-neA-* ~ **-nA-* verbs appear most obviously as *-nā-* presents and subjunctives (Class VII) in both Tocharian A and B (where the *-nā-* represents both PIE **-neA-* and **-nA-* when the latter was in an open syllable). They are also to be seen in verbs of Class X: stems with *-nāsk-* [A *-nās-*] show a relatively late addition of **-sḱe/o-* to *-nā-*. Those stems in B *-nāsk-* [A *-nās-*], however, show the result of an earlier addition of PIE **-sḱe/o-* to the expected weak grade of the preceding suffix, i.e., **-nA-sḱe/o-*. We find a surely old example in *kānmāsk-* [A *kumnās-*] 'to come' from PIE **gwm-nA-sḱe/o-*. In the later history of Tocharian (both A and B) the *-nās(k)-* and *-nās(k)-* have become independent endings.

Besides the regular *-nā-*, Tocharian A shows two phonologically induced subclasses. The first results from the metathesis of **-tknā-* to **-tnkā-* [A *-tāñkā-*]. In these verbs, then, the suffixed *-n-* appears secondarily infixed. In the second group the PTch **-nā-* appears as *-nā-* by phonologically regular shortening after syllables containing PTch **-e-* or **-ā-*, e.g., A *skenas* 'he strives' from PTch **skey-nā-* [A *skainā-*] (see section 3.18). In Tocharian B, on the other hand, we find a secondary differentiation of *-nā-* (both indicative and subjunctive) and *-āñā-* (only indicative)—see section 3.19. In both languages *-nā-* is secondarily much extended to distinguish presents (in *-nā-* from subjunctives (in *-ā-*) in those verbs in *-ā-* which originally did not differentiate the two.⁴²

As an example of this type Table 18 gives the present indicative of AB *tārk-* 'to release, forgive'.

4.4 PROTO-INDO-EUROPEAN PRESENT CLASSES: THEMATIC That dialect of late Proto-Indo-European which gave rise to Tocharian appears to have had four principle present formation involving the thematic vowel: (1) the verbal root plus **-e/o-*; (2) the verb root plus **-ye/o-*; (3) the verb root plus **-se/o-*; and (4) the verb root plus **-sḱe/o-*. It would appear that all of the "compound" thematic formations (i.e., **-ye/o-*, **-se/o-*, and **-sḱe/o-*) remained productive as formatives with iterative-intensive meaning for a long time in pre-Tocharian and later took on causative meaning. Because of their separate semantic and functional history, they will be treated independently (section 4.5). The deverbative suffix **-ye/o-* did not remain productive in Tocharian itself, however, unlike the situation in most other Indo-European groups. However, as a maker of denom

TABLE 18
CLASS VI (PIE *-neA-)

	TOCHARIAN B	TOCHARIAN A
Sg. 1.	<i>tārkanau</i>	<i>tārnām</i> (*tārknām) ^a
2.	<i>tārkanat</i>	<i>tārnāt</i> ^b
3.	<i>tārkanam</i>	<i>tārnāṣ</i>
Pl. 1.	<i>tārkanam</i>	<i>tārnāmās*</i>
2.	<i>tārkanacer</i>	<i>tārnāc</i> ^c
3.	<i>tārkanam</i>	<i>tārneñc</i>

^acf. *kārsnām* 'I know'.^bcf. *kārsnāt* 'thou knowest', *skenat* 'thou triest', *knānat* 'thou knowest'.^ccf. *kārsnāc* 'you know'.

natives it evidently was viable for some time (sections 4.431 and 4.432).

4.41 SIMPLE THEMATICS. The unadorned thematic formation, the PIE type **bhere/o-*, is well represented in Tocharian, both as presents and as relegated subjunctives (often replaced as presents by stems in **-s(k)e/o-*). Nevertheless, they are as a type less dominant in Tocharian than they are in most other branches of Indo-European. Intra-Tocharian evidence allows us to set up three subtypes on the basis of the root vowel ablaut: (1) with PIE e-grade (PIE **bhere/o-* Tocharian AB *pārā/e-* 'to bear, carry'); (2) with PIE o-grade,⁴³ e.g., A *ken-* 'to call' or B *kes-* 'to extinguish' ([as if] from PIE **(z)gwose/o-*); and (3) with PIE ē-grade (compare Latin *cēdere* 'to go, proceed' for the type). Included in this last group are some old **-se/o-* presents with *-ē-* where the *-s-* has long been extended to the entire root, e.g., A *pros-* 'to be ashamed' ([as if] from PIE **prēwse/o-* 'to burn (with shame)' or B *klyaus-* [A *klyos-*] 'to hear' (PIE **kīēwse/o-*). As an example of all three subtypes we may cite, in Table 19, the paradigm of this last verb. (This is Krause and Thomas' Class II.)

4.42 SIMPLE THEMATICS WITH GENERALIZED *-o-: CLASSES III AND IV. Another type of simple thematic is found conjugated only in the middle. In classical terminology these verbs are deponents, and they show a generalization of the o-grade of the thematic vowel.⁴⁴ They are in origin nothing more than the old third person singular

TABLE 19
CLASS II (PIE SIMPLE THEMATICS)

	TOCHARIAN B	TOCHARIAN A
ACTIVE Sg. 1.	<i>klyausau</i> ^a	<i>klyosam</i> ⁱ
2.	<i>klyaušt(o)</i> ^b	<i>klyošt</i> ^j
3.	<i>klyaušām</i>	<i>klyoṣ</i> ^k
Pl. 1.	<i>klyausem(o)</i> ^c	<i>klyosamās</i> ^l
2.	<i>klyaušcer</i> ^d	<i>klyosac</i> (?) ^m
3.	<i>klyausem</i>	<i>klyoseñc</i> ⁿ
MIDDLE Sg. 1.	<i>klyausemar</i> ^o	<i>klyosmar</i> ^o
2.	<i>klyauštār</i> ^f	<i>klyoštār</i> ^p
3.	<i>klyauštār</i>	<i>klyoštār</i>
Pl. 1.	<i>klyausemt(t)ār</i> ^g	<i>klyosamtār</i> ^q
2.	<i>klyauštār</i> ^h	<i>klyośśār</i> (?)
3.	<i>klyausentār</i>	<i>klyosantār</i> ^r

^acf. *kātkau* 'I enjoy myself', *samau* 'I sit', *sāyau* 'I live', etc.^bcf. *campāt* 'thou canst', *šait* 'thou livest', *šāmt(o)* 'thou comest'.^ccf. *nāskem* 'we direct, require', *cimpem* [sic] 'we can'.^dcf. *parcer* 'you bear', *campcer* 'you can'.^ecf. *nāskemar* 'I seek after', *yārsemār* 'I honor', *aikemar* 'I know',*šaukemār* 'I am called'.^fcf. *aištār* 'thou knowest', *taštār* 'thou settest'.^gcf. *yirsemātār* 'we honor'.^hcf. *nāštār* 'thou seekest after'.ⁱcf. *ypam* 'I do', *nasam* 'I am'.^jcf. *kenāt* 'thou callest', *šot* 'livest'.^kcf. *kenāṣ* 'he calls', *pañwāṣ* 'extends', etc.^lcf. *nasamās*.^mcf. *šmac* 'you come'.ⁿcf. *ypeñc* 'they do', *triweñc* 'mix'.^ocf. *ypamār*.^pcf. *pāštār* 'thou art guarded'.^qcf. *ypamtār*, *pañwamtrā*, *pramtār* 'we are carried'.^rcf. *ypantār*, *triwantār*, *kenantār*, etc.

(thematic) middle in **-o* (e.g., PIE **dhughó*) to which the original athematic middle endings have been added (Watkins, 1969:77). This variety of thematic middle is probably older than that illustrated for *klyaus-* [A *klyos-*], where the (PIE) thematic vowel varies between **-e* and **-o-* on the model of the active. At least as far as pre-Tocharian is concerned, the newer **-e/o-* middle replaced the older **-o-* middle.

where the middle was in paradigmatic alternative with an active but not when there was no active equivalent. The preservation of this o-grade middle may be a significant isogloss which Tocharian shares with Hittite, Germanic (Jasanoff, 1973) and Baltic (where the o-grade of the thematic vowel is generalized even in the active [Watkins, 1969:213]).

In Proto-Tocharian this class, with the thematic vowel always *-o-, was split into two by Mutual Rounding (section 3.16). Those verbs with a root vowel other than PTch *-ā- preserve the thematic vowel as B -e- [A -a-] (Class III), while those verbs with PTch *-ā- as a root vowel show the thematic vowel as B -o- [A -a-] (Class IV). This new class, Class IV, was used already in Proto-Tocharian to form the present stems to certain old denominatives in -ā- where the present was not originally distinguished from the subjunctive (e.g., present B *pautotār* 'he flatters' [A *potatār*], subjunctive *pautātār* [A *potātār*]). As examples of the paradigms of Classes III and IV we may cite (Table 20) those of AB *trik-* 'to become confused' (Class III) and AB *ās-* 'to become dry' (Class IV).

One should note the regular loss of the thematic vowel in Class IV in Tocharian A where it is in an open syllable between two "strong" vowels (see section 3.18) and also the analogical lack of ā-umlaut of the thematic vowel B-e- [A -a-].

4.43 THEMATIC PRESENTS IN PIE *-ye/o-. As was the case with the *-ā- (*eA-) verbs, there were two kinds of *-ye/o- verbs in late Proto-Indo-European and in Proto-Tocharian: deverbatives and denominatives. The deverbatives remain as a distinguishable class only in the Tocharian B Class IV subjunctives (with the Tocharian stem vowel -i-), e.g., *kālypīsi* 'to steal'. Tocharian A lacks this variety of subjunctive altogether. In both languages deverbative *ye/o-* stems appear as a subset of Class II presents with the *-y- transferred to the root, e.g., B *kery-* [A *kary-*] 'to laugh'. The denominatives may also appear in Tocharian B as Class IV subjunctives, e.g., B *śerīsi* 'to hunt' from *śerwe* 'hunter',⁴⁵ but show up most obviously in both languages as Class XII presents and subjunctives, that is, those *-ye/o- presents to old *n-* stems, e.g., B *lareññ-* 'to love' from *lāre* (pl. *lareñ*) 'dear'.

4.431 DEVERBATIVE *-ye/o- PRESENTS. Like verbs with the "un-compounded" thematic vowel, the deverbatives in *-ye/o- may be classified on the basis of root ablaut, that is, whether the root shows

TABLE 20
CLASSES III AND IV

	TOCHARIAN B		TOCHARIAN A	
Sg. 1.	<i>trikemar</i> ^a	<i>osomar</i> ^d	<i>trikamār</i> [*]	<i>asmār</i> ^h
2.	<i>triketar</i>	<i>osotar</i> ^e	<i>trikatār</i> ⁱ	<i>astār</i> ⁱ
3.	<i>triketār</i>	<i>osotār</i>	<i>trikatār</i>	<i>asatār</i> ⁱ
Pl. 1.	<i>trikemt(t)ār</i> ^b	<i>osomt(t)ār</i> [*]	<i>trikamtār</i> [*]	<i>asamtār</i> [*]
2.	<i>triketār</i> [*]	<i>osotār</i> [*]	<i>trikacār</i> [*]	<i>asacār</i> [*]
3.	<i>trikentār</i> ^c	<i>osontār</i>	<i>trikantār</i> ^g	<i>asantār</i> ^k

^acf. *māskemar* 'I am/find myself', *tsremar* 'I separate myself (from)'.

^bcf. *rittemtār* 'we bind ourselves (to)'.

^ccf. *prukentār* 'they are locked up', *māskentār*, *māsttsentār* 'they starve', etc.

^dcf. *korpomār* 'I climb down', *kloyomar* 'I fall', *klautkomār* 'I turn, become'.

^ecf. *klaisotar* 'thou witherest'.

^fca. *māskatār* 'thou art/findest thyself', *yutkatār* 'thou worriest'.

^gcf. *māskantrā*, *triwantār* 'they mix'.

^hcf. *praskmār* 'I fear'.

ⁱcf. *artār* (< *art-tār) 'thou lovest', *plantār* 'art delighted'.

^jcf. *klawatār* 'he falls', *praskatār* 'fears', etc.

^kcf. *klawantār*, *praskantār*, etc.

zero-grade, e-grade, or o-grade. Thus we have the (Class III) present AB *kāly-* 'to stand' from PIE **kl(E)-ye/o-* [: Lithuanian *keliū* 'raise up', with a different ablaut grade] or the Class IV subjunctive *wšīsi* 'to abide' (as if) from PIE **us-ye/o-* showing PIE zero-grade or the Class IV subjunctive, B *kālypīsi* 'to steal' from PIE **klep-ye/o-* [: Greek *kléptō* 'I steal'] with e-grade or the (Class II) present *mely-* [A *malyw-*] 'to grind' from PIE **molw-ye/o-* [: Gothic *ga-malw]* 'id.']) and B *kery-* [A *kary-*] 'to laugh' from PIE **ghor-ye/o-* [: Greek *khairō* 'I rejoice', with a different ablaut grade]. In this last verb though classified as a Class II present by Krause and Thomas, the *-y- is still restricted to the present, since we find both Tocharian past participle, *kekeru*, and the corresponding causative, *kerastu* without it.

Theoretically, the Class II presents ending in (PIE) *-ye/o- and the Class IV subjunctives of Tocharian B should have the same conjugation, since they have the same origin. Being sure on this question is difficult, since neither group is well represented in the surviving texts.

The fragmentary remains, however, strongly suggest that there are differences between the Class II presents and the Class IV subjunctives. Apparently the same kind of differentiation we found among the *nā*-verbs, i.e., *-ānā-* beside *-ānā-*, exists among the *ye/o*-verbs. We find both *-āya/e-* beside *-āyā/é-*. There is a difference, however. Among the *nā*-verbs, *-ānā-* appears largely in the Tocharian present and never in the subjunctive, while *-āyā/e-* appears exclusively in the subjunctive and never in the present. The two slightly different conjugations that resulted from this difference in stress placement are illustrated by Tocharian B *mely-* 'to grind' (active) and *kāly-* 'to stand' (middle) for the Class II presents and by *wās-* 'to abide' (active) and *ākī-* 'to learn' (middle) for the Class IV subjunctives (Table 21).⁴⁶

TABLE 21
CLASS II PRESENTS/CLASS IV SUBJUNCTIVES
(PIE *-ye/o-)

	CLASS II PRESENT	CLASS IV SUBJUNCTIVE
ACTIVE Sg.1.	<i>melyau*</i>	<i>wšīyau</i>
2.	<i>melyāt*</i> [A <i>malywat</i>]	<i>wšīt(o)*</i>
3.	<i>melyim</i> (but <i>melyan-ne</i>)	<i>wašim</i>
Pl. 1.	<i>melyem(o)*</i>	<i>wšīyem*</i>
2.	<i>melycer*</i>	<i>wšīcer*</i>
3.	<i>melyem</i>	<i>wšīyem</i>
MIDDLE Sg.1.	<i>klyemar*</i> [but A <i>kālymār</i>]	
2.	<i>kaltar*</i>	
3.	<i>kaltār</i> [A <i>kālytār</i>]	<i>aklyītār</i>
Pl. 1.	<i>klyemt(t)ār</i>	
2.	<i>kaltār*</i>	
3.	<i>klyentār</i> [A <i>klyantār</i>]	<i>aklyientār</i>

432 DENOMINATIVE *-ye/o- PRESENTS. Denominative *-ye/o- verbs are to be found synchronically in Tocharian B subjunctives of Class IV and in both A and B in presents and subjunctives of Class XII. Of the few Class IV subjunctives attested in Tocharian B, only one is indubitably a denominative, *śerītsi* 'to hunt' (as if) from PIE **ǵhwērwe-ye/o-* (cf. B *śerwe* 'hunter' from PIE **ǵhwērwo-*).

[: Greek *thēr* '(wild) animal']. Insofar as one can tell, such denominatives are conjugated exactly like the deverbatives of the same class.

More abundant are denominatives in *-ye/o- built on stems ending in *-n-, e.g., B. *lareññentār* 'they love' from PTch **lāren-yā/e-* (cf. B *lāre* [pl. *lareñ*] 'dear'). In both languages this originally denominative formation in *-n-ye/o- has been extended to "primary" verbs. In other words, it is synchronically also a deverbative suffix. Indeed, it is with such deverbative stems as B *māntāññ-* 'to hurt' or A *śewiññ-* 'to yawn' that we find the fullest paradigmatic evidence for this conjugation type (Table 22).⁴⁷

TABLE 22
CLASS XII (PIE *-nye/o-)

	TOCHARIAN B	TOCHARIAN A
ACTIVE Sg.1.	<i>māntāññau*</i>	
2.	<i>māntant(o)*</i>	
3.	<i>māntam</i>	
Pl. 1.	<i>māntāññem*</i>	
2.	<i>māntāñcer*</i>	
3.	<i>māntāññem</i>	
MIDDLE Sg.1.	<i>māntāññemar</i>	<i>śewiñmār*</i>
2.	<i>māntantar^a</i>	<i>śewiñtār (-iñtār)*</i>
3.	<i>māntantār</i>	<i>śewiñtār (-iñtār)</i>
Pl. 1.	<i>māntāññemt(t)ār*</i>	<i>śewiññamtār*</i>
2.	<i>māntantār^b</i>	<i>śewiñcār*</i>
3.	<i>māntāññentār</i>	<i>śewiññantār*</i>

^acf. *tserentar* 'thou deceivest', *añmantar* 'wishest', *winantār* 'pleasest'.

^bcf. *tserentār* 'you deceive'.

4.5 PROTO-INDO-EUROPEAN ITERATIVE-INTENSIVES. Proto-Indo-European appears to have been prodigious in the number and variety of verbal formations that were iterative-intensive in meaning. The most widespread of these formations were the familiar **Co(C)C-eye/o-* and **C(e)(C)C-ske/o-* types, both of which are represented, at least residually, in most branches of Indo-European. Tocharian is atypical in lacking any sure example of the first class (the closest it comes are formations of the type **Co(C)C-ye/o-* as in B *mely-* [A *malyw-*] 'to grind' and B *kery-* [A *kary-*] 'to laugh'), but verbs in **ske/o-* form a very productive category, and they are

joined by verbs in *-se/o-, a formation not as well represented outside Tocharian.⁴⁸

It would appear that at some stage of pre-Tocharian there was, potentially at least, an iterative-intensive in either *-s \hat{k} e/o- or *-se/o- beside most presents. In certain cases this iterative-intensive impinged on the original present, either replacing it entirely or relegating it to subjunctive use. The former situation can be exemplified by B *nāsk-* 'to bathe (intr.), swim' where the -sk- now forms part of the root and appears in the preterite and preterite participle as well as in the present (and in the formally identical subjunctive). The unextended root is to be found in Latin *nāre* 'to swim' or in Sanskrit *snāti* 'he bathes' (intr.). The other situation is seen in the stem *luk-* 'to illuminate', where the present is formed (as if) from PIE **lukse/o-* while the subjunctive is the older simple thematic present **lewke/o-*.⁴⁹

Like the formative *Co(C)C-eye/o- in Germanic and Indo-Iranian, the Tocharian iterative-intensives in *-s \hat{k} e/o- most often assumed a causative meaning (but see fn. 10)—thereby adding a new dimension to the verb in this branch of Indo-European. What the mechanism was that led some at least of the early Tocharian iterative-intensives to be interpreted as causatives is not clear, but the consequent rearrangement of the Tocharian verbal system is one of the most salient of the morphological characteristics of this branch of Indo-European.

The major innovation suffered by this system in the later languages lies in Tocharian A's loss of *-s \hat{k} e/o- as a stem formative distinct from *-se/o-. This loss results from the phonological merger of PIE *-se- and *-s \hat{k} e- by way of Proto-Tocharian *-šā- and *-ššā- (still preserved as such in Tocharian B) to Tocharian A -š- by the general loss of gemination in that language. Though PIE *-so- and *-s \hat{k} o- would have remained distinct in Tocharian A as -sa- and *-ska-, the loss of contrast in the crucial third person singular led, by Watkins' Law, to the loss of contrast elsewhere in the paradigm. Tocharian B has innovated only in the creation of a new suffix, -āsk-, with fixed initial stress as a productive causative suffix. The difference in stress is particularly noticeable in those verbs which are already characterized by -sk- in their non-causative present, e.g., B *tānmāsk-* 'to be born' but *tānmāsk-* 'to beget'. Sample paradigms for PIE *-se/o- (Class VIII) are provided in Table 23 by B *er-* [A *ar-*] 'to evoke' and in

TABLE 23
CLASS VIII (PIE *-se/o-)

	TOCHARIAN B	TOCHARIAN A
ACTIVE Sg. 1.	<i>ersau</i> ^a	<i>arsam</i> ^d
2.	<i>eršt(o)</i> ^b	<i>arāšt</i>
3.	<i>eršām</i>	<i>arāš</i>
Pl. 1.	<i>ersem(o)*</i>	<i>arsamās</i> ^e
2.	<i>eršcer*</i>	<i>arāś</i> ^f
3.	<i>ersem</i>	<i>arseñc</i>
MIDDLE Sg. 1.	<i>ersemar</i> ^c	<i>arāsmār*</i>
2.	<i>erštar*</i>	<i>arāštār</i>
3.	<i>erštār</i>	<i>arāštār</i>
Pl. 1.	<i>ersem(t)ār*</i>	<i>arsamtār*</i>
2.	<i>erštār*</i>	<i>arāśśār*</i>
3.	<i>ersentār</i>	<i>arsantār</i>

^acf. *preksau* 'I ask', *tsaksau* 'I burn' (tr.), *raksau* 'I cover'.

^bcf. *prekšt* 'thou askest', *nākšt* 'destroyest', *tsamšt* 'growest' (tr).

^ccf. *plānsemār* 'I come up for sale'.

^dcf. *esam* 'I give', *kosam* 'I kill'.

^ecf. *tāsamās* 'we set', *lāntsamās* 'we go out'.

^fcf. *wālkās* 'you command'.

Table 24 for PIE *-s \hat{k} e/o- (Classes XI and X) by *tānmāsk-/tānmāsk-* in Tocharian B only.

In Proto-Tocharian itself the originally present stem formative *-s \hat{k} e/o- had been extended to the preterite (and imperative) under the form *-s \hat{k} -ē- [B -ššā-, A -šā-] as a convenient way of creating a preterite to certain causative stems. Since causatives in *-s \hat{k} e/o- normally did not distinguish present from subjunctive, it is not surprising that the *-s \hat{k} e/o- suffix should find itself extended to the imperative which more often than not shared the same stem as the subjunctive.

4.6 THE PROTO-INDO-EUROPEAN PERFECT. Unlike the case of the PIE present, where both late Proto-Indo-European and Tocharian show manifold possibilities of stem formation, the PIE perfect shows essentially a single type of formation. As if to make up for this paucity of types, the single perfect shows up in Tocharian playing a larger variety of functional roles with more rebuilt formal guises than any present. As we have already seen (see section 4.1), a Proto

TABLE 24
CLASSES IX AND X (PIE *-skē/o-)
[TOCHARIAN B]

	NON-CAUSATIVE	CAUSATIVE
ACTIVE Sg. 1.		<i>tanmäskau</i> ^a
2.		<i>tanmäst</i> ^b
3.		<i>tanmäššäm</i>
Pl. 1.		<i>tanmäskem</i> ^c
2.		<i>tanmäšcer</i> ^d
3.		<i>tanmäskem</i>
MIDDLE Sg. 1.	<i>tänmaskemar</i> ⁱ	<i>tanmäskemar</i> ^e
2.	<i>tänmastar</i>	<i>tanmästar</i> ^f
3.	<i>tänmastär</i>	<i>tanmästär</i>
Pl. 1.	<i>tänmaskemt(t)är</i> ^j	<i>tanmäskemt(t)är</i> ^g
2.	<i>tänmastär*</i>	<i>tanmästär</i> ^h
3.	<i>tänmaskentär</i>	<i>tanmäskentär</i>

^acf. *prutkaskau* 'I lock up', *rittaskau* 'I bind', etc.

^bcf. *nust* (< **nuwäst*) 'thou raisest a roar', *walkäst* 'commandest', etc.

^ccf. *änāskem* 'we breathe'.

^dcf. *walkäšcer*.

^ecf. *tsärwāskemar* 'I am consoled'.

^fcf. *šänmästär* 'thou art bound'.

^gcf. *änāskemtär* 'we are breathed in'.

^hcf. *šänmästär* 'you are bound'.

ⁱcf. *yamaskemar* 'I am made', *yaskaskemar* 'I beg'.

^jcf. *enkaskemttär* 'we grip', *yamaskemtär* 'we are made', *rinaskemttär* 'we let go'.

Indo-European perfect (with o-grade in the singular and zero-grade in the dual and plural and, at least as far as Tocharian is concerned, without a trace of reduplication)⁵⁰ may be expected in Proto-Tocharian as a subjunctive (or imperative) or as a preterite.⁵¹

4.61 THE PIE PERFECT AS ATHEMATIC SUBJUNCTIVE. It is in the athematic subjunctive of Class I that we see the old PIE perfect most clearly. It is here that the Indo-European ablaut is most regularly preserved, unobscured by phonological or analogical influences.⁵² As an example of this paradigm we may cite (Table 25) the

Tocharian B subjunctive of *pärk-* 'to ask'. (The Tocharian A evidence is too fragmentary to provide anything like a complete paradigm.) The optative built from these subjunctives may be old, but the whole of the middle, where it exists, are later analogical developments.

TABLE 25
CLASS I (ATHEMATIC) SUBJUNCTIVE

	SUBJUNCTIVE	OPTATIVE
Sg. 1.	<i>preku</i>	<i>paršim</i> ^c
2.	<i>prekt(o)</i> ^a	<i>paršit</i>
3.	<i>prekäm</i>	<i>parši</i>
Pl. 1.	<i>pärkam(o)</i> ^b	<i>päršiyem*</i>
2.	<i>parkcer*</i>	<i>päršicer*</i>
3.	<i>parkäm</i>	<i>paršyem</i> ^d

^acf. *ait* 'thou wilt give', *yämt* 'wilt do'.

^bcf. *ruwām* 'we will open'.

^ccf. *yapim* 'I might open'.

^dcf. *kliñem* (< **kliñyem*) 'they had to', *placyem* 'they might pour forth'.

4.62 THE PIE PERFECT AS *ā*-SUBJUNCTIVE. This same perfect/subjunctive formation is to be seen, if somewhat less obviously, in certain subjunctives of Class V (*ā*-subjunctives). These are nothing more than regular Class I subjunctives with the addition of the nearly ubiquitous subjunctive marker *-ā-*. (Subjunctives in *-ā-* are overwhelmingly more numerous than any other variety.) Normally, the original system of PIE ablaut remains intact, though with the addition of *-ā-*, PTch *-e- is affected by *ā*-umlaut (Cowgill, 1967:171-181). An example of this formation is provided by the subjunctive paradigm of AB *tärk-* 'to release'. The optatives to such subjunctives are formed to the zero-grade stem (as in Class I optatives). In Tocharian A the *-ā-* of the subjunctive, if ever present, is truncated before the optative endings—all of which begin with *-i-*. In Tocharian B, on the other hand, the *-ā-* of the subjunctive stem does not truncate but rather combines with the optative *-i-* as *-oy-* (Table 26).⁵³

This subvariety of Class V subjunctive, in Tocharian B at least, is unusual in that it has fixed initial stress in all forms of the subjunctive and optative.⁵⁴ This characteristic distinguishes it from those Class V

TABLE 26
ABLAUTING CLASS V SUBJUNCTIVES (PIE *-eA-)
[TOCHARIAN B]

	TOCHARIAN B	TOCHARIAN A
SUBJUNCTIVE	Sg. 1. <i>tārkau</i>	<i>tarkam</i>
	2. <i>tārkāt</i> ^a	<i>tarkat</i> ^d
	3. <i>tārkaṃ</i>	<i>tarkaṣ</i> ^e
	Pl. 1. <i>tarkam</i>	<i>tārkāmās</i> ^f
	2. <i>tarkacer</i>	<i>tārkāc</i>
	3. <i>tarkaṃ</i> ^b	<i>tārkeñc</i> ^g
OPTATIVE	Sg. 1. <i>tarkoyṃ</i>	<i>tārkim</i> ^h
	2. <i>tarkoyt</i> ^c	<i>tārkīt</i> ⁱ
	3. <i>tarkoy</i>	<i>tārkiṣ</i> ^j
	Pl. 1. <i>tarkoyem</i> *	<i>tārkimās</i> *
	2. <i>tarkoycer</i> *	<i>tārkic</i> *
	3. <i>tarkoyeṃ (tarkoṃ)</i>	<i>tārkiñc</i> ^k

^acf. *kārpāt* 'thou wilt climb down', *kālat* 'wilt lead', etc.

^bcf. *tākaṃ* 'they will be', *yūkaṃ* 'they will overcome', etc.

^ccf. *nukoyt* 'thou mightest swallow'.

^dcf. *kātkat* 'thou wilt pass over', *yokat* 'wilt prevail', *lawat* 'wilt send'.

^ecf. *kātkaṣ*, *krasaṣ* 'he will know', *klesaṣ* 'he will sleep'.

^fcf. *kālkāmās* 'we will go', *kārsāmās* 'we will know'.

^gcf. *kālkeñc*, *kātkeñc*, etc.

^hcf. *kālkim* 'I might go', *tsilim* 'I might touch'.

ⁱcf. *kālkīt*.

^jcf. *kālkiṣ*, *klišiṣ* 'he might sleep', etc.

^kcf. *kārsiñc* 'they might know', *tsālpiñc* 'they might be freed', etc.

subjunctives derived from deverbative presents in -ā-, e.g., *lākā-* 'to see' (section 4.332) or those derived ultimately from aorist stems (section 4.76), which generally have stressed fixed on the -ā-. Another variety of Class V subjunctives, existing in both languages, is probably also derived from the PIE perfect. This second subvariety shows the generalization of the o-grade (subject, of course, to ā-umlaut) to all forms of the subjunctive and optative. It too shows fixed initial stress in Tocharian B. An example is the subjunctive of AB *pik-* 'to paint, write', shown in Table 27.

4.63 THE PIE PERFECT AS IMPERATIVE IN TOCHARIAN. Among Tocharian imperative formations there are those which correspond

TABLE 27
NON-ABLAUTING CLASS V SUBJUNCTIVES
(PIE *-eA-) [TOCHARIAN B]

	TOCHARIAN B	TOCHARIAN A
SUBJUNCTIVE	Sg. 1. <i>paikau</i> ^a	<i>pekam</i> ^b
	2. <i>paikat</i>	<i>pekat</i>
	3. <i>paikaṃ</i>	<i>pekaṣ</i>
	Pl. 1. <i>paikam</i>	<i>pekamās</i>
	2. <i>paikacer</i>	<i>pekac</i>
	3. <i>paikaṃ</i>	<i>pekeñc</i>
OPTATIVE	Sg. 1. <i>paikoym</i>	<i>pekim</i>
	2. <i>paikoyt</i>	<i>pekit</i>
	3. <i>paikoy</i>	<i>pekiṣ</i>
	Pl. 1. <i>paikoyem</i>	<i>pekimās</i>
	2. <i>paikocer</i>	<i>pekiec</i>
	3. <i>paikoyeṃ (paikoṃ)</i>	<i>pekiñc</i>

^aThe Tocharian B paradigm is wholly reconstructed. The group is not attested outside of a few non-finite forms and a few middle forms from some nine verb roots (*lup-* 'smear', *pik-* 'write', *rāk-* 'cover', *kwās-* 'bewail', *nitt-* 'break down', *pāl-* 'praise', *swās-* 'rain', *skār-* 'blame', *tsik-* 'shape').

^bLikewise, no active forms are attested in Tocharian A, cf. the passive *pekatrā* 'it will be painted'.

to the two kinds of subjunctive just discussed (section 4.62). Like them, they are synchronic manifestations of the old Proto-Indo-European perfect. Analogous to the ā-subjunctive built on an ablauting perfect are the ā-imperatives (Class I) built on the same ablauting base, e.g., the imperatives of AB *tārk-* 'to release' or AB *kāl-* 'to bring' (Table 28).

Likewise, corresponding to Class I subjunctives without the added -ā-, we find Class III imperatives. Here, however, like the corresponding preterites (see section 4.641), the middle forms show the added suffix -sā-. The best example of this group is provided by the imperative to AB *tās-* 'to lay, set' (or the Tocharian A active of imperatives such as *tārk-* – see fn. 55). The imperative for this particular verb is not matched by an analogous subjunctive, but we should note the Class III preterite (third. sg.) *tessa*, which is also to be derived from a PIE perfect (Table 29).

TABLE 28
CLASS I (-ā-) IMPERATIVES

	TOCHARIAN B	TOCHARIAN A55
ACTIVE Sg.2. Pl. 2.	(p)tārka pkāla ptarkaso (p)kalas	ptark pkal ^a ptārkās pāklās
MIDDLE Sg.2. Pl. 2.	pkalar pkalat	pāklār pāklāc ^b

^aActually written p_ukal.

^bcf. pātskāc 'burn!', purpāc 'enjoy!', pālkāc 'see!'.

TABLE 29
CLASS III (-s-) IMPERATIVES

	TOCHARIAN B	TOCHARIAN A55
ACTIVE Sg.2. Pl. 2.	(p)tes ptasso	ptas (cf. ptark) ptās* (cf. ptārkās)
MIDDLE Sg.2. Pl. 2.	ptassar ptassat	pātstsār (/pātässār/) pātstsāc (/pātässāc/)

4.64 THE PIE PERFECT AS TOCHARIAN PRETERITE. Where the PIE perfect remained non-modal in the new Tocharian preterite category, it suffered one of two fates. When it did not take the ubiquitous -ā- as a tense sign (this time as the sign of the preterite rather than subjunctive), it became hopelessly entangled with the PIE sigmatic aorist. Where it did take the -ā-, it tended to become confounded with the ā-aorist.

4.641 AS A CLASS III PRETERITE WITH NO SUFFIXAL -ā-. Those PIE perfects which did not take the preterital -ā- became amalgamated with the sigmatic aorist. As Van Windekens (1982:160) perceptively notes, the source of the conflation must have been the identical outcome in Proto-Tocharian of PIE *-o- and *-ē- after a non-palatalizing consonant. Thus a PIE perfect *prok- (cf. Sanskrit *pāraccha*) and *prēk-, characteristic of the -(i)s-aorist (cf. Sanskrit *aprākṣam*), would both give PTch *prek-.⁵⁶ The ultimate distribution of perfect and sigmatic aorist forms was that the latter are to be found throughout the middle, while the former are seen in the active,

with the exception of the third person singular. This pivotal member of the paradigm shows characteristics of both types. All forms with -s- are extended by -ā-. Winter points out (p.c.) that in Tocharian A we have a generalization of (PIE) *ē. That is, we always have palatalization wherever possible (even in a form like *crankās* 'he used to say', where it could not be original). Tocharian B shows (PIE) *ē only in a limited subclass of verbs of motion (e.g., *lyautsa* 'he drove [someone] off').

An example of this type of preterite is the (AB) verb *pārk-* 'to ask' (Table 30). One should compare, for Tocharian B at least, the conjugation of the corresponding subjunctive (see section 4.61 which provides a much more faithful formal representative of its Proto-Indo-European ancestor.

4.642 TOCHARIAN "CLASS III" PRETERITES WITHOUT -sā-. In addition to the regular Class III preterites in Tocharian A, there is a small class of verbs that form middle preterites that look like Class III preterites without the characteristic -sā. They are *nakā(n)t* 'he/they perished', *tamā(n)t* 'he/they were born', *pakāt* 'it cooked' (intr.), *lyokā(n)t* 'he/they were illuminated', and *tsakāt* 'he burned' (intr.).⁵⁷ The history of these Tocharian A preterites (Tocharian B shows nothing analogous) is disputed. Krause and Thomas (1960:247) suggest that they are PIE perfects which have become contaminated with old root aorist middles. (Since the plural shows the same ablaut grade as the singular, we must assume leveling.) Watkins (1962:72), on the other hand, takes the singular to be a past participle in *-to- just as Old Irish *at-bath* 'he died' is from PIE *g^wA-tó- 'gone'. The third person plural then would be formed to the third person singular, since the participle in -to- (with the loss of final -s) was identical to the normal third person middle ending.

The trouble with Krause and Thomas' theory of contamination, as Watkins points out, is that middle root aorists are extremely recessive in the various Indo-European dialects, and it seems unlikely that Tocharian A would preserve a whole class of them and yet have no examples of active root aorists. On the other hand, Watkins' explanation, while semantically impeccable and paralleled in other Indo-European languages, is formally impossible. A PIE *nek-to- 'perished', *pek^w-to- 'ripe', etc., would have given Tocharian A *ñkāt or *pkāt, while a PIE *ne^k-to- would have given Tocharian A *nkāt. Tocharian A -a- can come only from PIE *-o- or *-ē-; the lack of pala-

TABLE 30
CLASS III (-s-) PRETERITES

	TOCHARIAN B	TOCHARIAN A
ACTIVE Sg. 1.	<i>prekwa</i> ^a	<i>prakwā</i>
2.	<i>prekasta</i> ^b	<i>prakāšt</i> ⁱ
3.	<i>preksa</i>	<i>prakās</i>
Pl. 1.	<i>prekam</i> ^c	<i>prakmās</i> ^j
2.	<i>prekas</i> ^d	<i>prakās*</i>
3.	<i>prekar</i>	<i>prakār</i> ^k
MIDDLE Sg. 1.	<i>parksamai</i> ^e	<i>prākse</i> ^l
2.	<i>parksatai</i> ^f	<i>prāksāte</i> ^m
3.	<i>parksate</i> ^g	<i>prāksāt</i>
Pl. 1.	<i>parksamt(t)e</i> ^h	<i>prāksāmāt</i> ⁿ
2.	<i>parksat*</i>	<i>prāksāc</i> ^o
3.	<i>parksante</i>	<i>prāksānt</i>

^acf. *nekwa* 'I destroyed', *kawwa* 'killed', *yonwā* (+**yonmwā*) 'entered'.

^bcf. *kesasta* 'thou extinguishedst', *kelasta* 'bore', *nekasta*, etc.

^ccf. *kawam* 'we killed'.

^dcf. *lautso* 'thou came out'.

^ecf. *temtsamai* 'I was born', *nemtsamai* 'bent' (intr.), *ersamai* 'evoked'.

^fcf. *ersatai* 'thou evokedst', *rintsatai* 'gave up'.

^gcf. *tāssāte* 'he was set', *neksate* 'he was destroyed', *ersate*, etc.

^hcf. *temtsamte*, *rintsāmte*.

ⁱcf. *yāmāšt* 'thou didst', *lyockāšt* 'thou madest become'.

^jcf. *wālmā[s]* 'we died'.

^kcf. *cāmpār* 'they could', *yāmār* 'they did', etc.

^lcf. *yāmtse* 'I did', *rise* 'I gave up', *tse* 'I set myself'.

^mcf. *risāte*, *tsāte*.

ⁿcf. *nāksāmāt* 'we destroyed'.

^ocf. *yāmtsāc* 'you did'.

talization would indicate a PIE **nok-* rather than **nek-*, and such a form is surely a perfect.

It would seem that at that period of Proto-Tocharian when old perfects (which probably did not have corresponding middles) that were still preterites in function were being rebuilt so as to bring together form with the newly redefined function, there was a choice. Either they could rebuild on the model of the sigmatic aorists (either active or middle) or, if they were clearly middle in meaning, the speaker of Proto-Tocharian could simply add the productive middle

endings directly to the old "active" perfect, e.g., PTch **nekā* (PI **nokē*) → PTch **nekā-te* giving A *nakāt*. This second option was either not taken or soon given up in Tocharian B.

4.643 PIE PERFECTS AS CLASS I PRETERITES. Given that we find descendants of the PIE perfect among those Class V subjunctive with suffixal *-ā-*, we would expect to find certain Class I preterites also characterized by suffixal *-ā-*, whose antecedents were PIE perfects. We would expect to find ablauting Class I preterites corresponding to the ablauting Class V subjunctives and Class I preterite with the PIE **o*-grade generalized. Our expectations are only partially fulfilled. Just as the preterites of Class III show a tendency to restrict ablaut by generalizing either the full or weak grade, Class I preterites show the complete elimination of ablaut. Where ablaut was eliminated in favor of the zero-grade, an old perfect with suffixed *-ā-* became completely identical with an *ā*-aorist and is therefore not recoverable as a perfect by internal reconstruction. Where ablaut was frozen in the *o*-grade, however, it is possible to recover the pre-Tocharian perfect. An example of such a preterite is to be seen in B *pik-* 'to write, paint' (Table 31).⁵⁹ Compare the corresponding subjunctive in section 4.62.

4.7 THE PROTO-INDO-EUROPEAN AORIST. Of the non-modal categories of Proto-Indo-European which have Tocharian reflexes, the one whose history is least easy to trace is the aorist. Proto-Indo-European showed several different aorist formations, most of which were formally indistinguishable from present stems. The distinction between present and aorist was functional rather than formal; a formation which served as a present with one root might be an aorist for another because it was paired up with a very different present formation. This state of affairs, plus the purely Tocharian innovations and rearrangements whereby the PIE perfect and aorist assumed essentially identical functional roles, whether it was a preterite or subjunctive/imperative, have further obscured the fragility of the PIE aorist. Nevertheless, Tocharian provides some evidence for such major PIE aorist formations as the sigmatic aorist, the athematic root aorist, the reduplicated aorist, and the thematic aorist.

Of overwhelming importance for the history of both the Tocharian preterite and subjunctive/imperative categories was a subset of the athematic root aorists—those verbs whose root ended in **-A* or **-E*. It is these verbs which by reanalysis, probably already in late Proto-

TABLE 31
NON-ABLAUTING CLASS I (-ā-) PRETERITES

	TOCHARIAN B	TOCHARIAN A
ACTIVE Sg.1.	<i>paikāwa*</i>	<i>pekā</i> ^g
2.	<i>paikāsta*</i>	<i>pekašt</i> ^f
3.	<i>paika</i>	<i>pek</i> ^g
Du.3.	<i>paikais*</i>	<i>pekenas</i> ^h
Pl. 1.	<i>paikām(o)</i> ^a	<i>pekmās</i> ⁱ
2.	<i>paikās(o)*</i>	<i>pekas</i> ^j
3.	<i>paikāre</i> ^b	<i>pekar</i> ^k
MIDDLE Sg.1.	<i>paikāmai</i>	<i>peke</i>
2.	<i>paikātai</i> ^c	<i>pekte</i> ^l
3.	<i>paikāte</i>	<i>pekat</i>
Pl. 1.	<i>paikāmt(t)e*</i>	<i>pekamāt</i>
2.	<i>paikāt*</i>	<i>pekac</i> ^m
3.	<i>paikānte</i> ^d	<i>pekant</i> ⁿ

^acf. *waltsām* 'we crushed', *maitam* 'we set/started out'.

^bcf. *skarāre* 'they blamed', *naittāre* 'they destroyed', etc.

^ccf. *palātai* 'thou praisedst', *waskātai* 'movedst'.

^dcf. *palante* 'they praised', *laikānte* 'washed themselves'.

^ecf. *tākā* 'I was', *skāyā* 'I tried', etc.

^fcf. *tākašt* 'thou wert', *kārpašt* 'climbedst down', etc.

^gcf. *tāk* 'he was', *kārp*, etc.

^hcf. *tākenas* 'you two were'.

ⁱcf. *tākmās*.

^jcf. *kotas* 'you split'.

^kcf. *tākar*, *ārar* 'they stopped', etc.

^lcf. *kropte* 'thou gatheredst'.

^mcf. *klāpac* 'you announced'.

ⁿcf. *kropant* 'they gathered', *kākant* 'they called', etc.

Indo-European times, provided the nearly ubiquitous *-ā- or *-ē- (the latter also became *-ā- in Proto-Tocharian but was distinguished from original *-ā- by palatalization of the preceding consonant [section 3.12]) which was added to most preterites and subjunctive/imperatives, no matter what their origin.⁶⁰ We have already discussed PIE perfects which appear as Class V subjunctives (section 4.62) or as Class I preterites (section 4.643) by the addition of the suffixal -ā-, and our discussion of the aorist will be full of comparable occurrences.

4.71 THE PIE SIGMATIC AORIST. As we have already seen in our discussion of the perfect, the PIE sigmatic aorist became completely conflated with the o-grade perfect. Whether or not the sigmatic aorist was more characteristic of the middle than the active in late Proto-Indo-European (cf. Watkins, 1962:52-60), it surely formed the middle counterpart to these Proto-Indo-European perfects which were to become Tocharian preterites of Class III. The resultant combined paradigm is illustrated in section 4.641.

4.72 THE PIE REDUPLICATED AORIST. The reduplicated (thematic?) aorist of the type seen in Greek *épephnon* 'I slew' or *tetagón* 'seizing' forms the Class II preterite in Tocharian A. These aorists are restricted to the latter language, where they provide causative preterites to ablauting stems (i.e., those with PTch *-ā, *-āy-, or *-āw- as the basic stem vowel).⁶¹ In Indo-European terms the ablaut grade for this particular formation was either a generalized e-grade or a generalized zero-grade, e.g., A *śaśārs* 'he made known' (root *kārs-*) but *kakāl* 'he tolerated' (root *kāl-*). It is probably not accidental that these reduplicated aorists took on causative meanings also in Greek (Schwyzer, 1953:748-749) and a similar formation (e.g., *ajījanat* 'he produced') is always causative in Sanskrit. The vowel of the reduplicating syllable (PTch *ē) is not well explained (but see Lindemann, 1969).

We illustrate this aorist formation in Table 32 by the Tocharian Class II preterites of *tsām-* 'to grow' (with original e-grade) and *kā-* 'to tolerate' (with original zero-grade).

4.73 PIE ē-GRADE AORISTS. Functionally equivalent to these reduplicated preterites in Tocharian A are certain "long vowel" preterites in Tocharian B, e.g., *cāla* 'he raised' from the root *tāl-*. Because both types of preterite are normally causative, there has been a tendency ever since Schulze (1934:239ff.) to equate them formally as well and to see in a Tocharian B form such as *cāla* somehow the phonetic outcome of the *cec(ā)lā that would exactly match Tocharian A *cacāl*. Such a hypothesis certainly cannot be sustained phonologically, but neither is it compatible with the morphological evidence. There are, for instance, at least three preterites of this class in Tocharian B which are non-causative: *lyāka* 'he saw', *plyāwa* 'he bewailed', and *lyāwa* 'he sent'.⁶³ In addition, this whole group, causative and non-causative alike, is matched formally by a group of Tocharian A imperfections, e.g., *śārsar* 'they used to know' but I

TABLE 32
TOCHARIAN CLASS II (REDUPLICATED) PRETERITES

	TOCHARIAN B	TOCHARIAN A
ACTIVE Sg.1.	sašmāwa ⁶²	kaklāwa
2.	sašmāšt	kaklāšt
3.	šašām	kakāl
Pl. 1.		
2.		
3.	šašmār	kaklār
MIDDLE Sg.1.		
2.		
3.	sašmāt ^a	kaklāt ^a
Pl. 1.		
2.		
3.	sašmānt	kaklānt

^acf. *papyukāt* 'it came into being', *sasrukāt* 'he was killed', etc.

šarsāre 'they informed', or A *lyāk* 'he used to see' beside B *lyāka* 'he saw'.

All of these preterites are the Tocharian reflexes of PIE long-vowel aorists of the shape *CēC(C)- [: Sanskrit *sādat*, OCS thematic aorists *sēdū*, Baltic preterite *šėdo*, Latin *sēdimus* (Watkins, 1969:97), all 'sat']. As was the case on Tocharian, these lengthened grade aorists were to be productive categories in Italic, Celtic, Germanic, Baltic, Slavic, and Albanian. Already in Proto-Tocharian times these verbs had added the "preterital" -ā-. To exemplify the Tocharian reflexes of this particular Proto-Indo-European aorist, we may cite in Table 33 the Tocharian B preterite and the Tocharian A imperfect of *lāk*- 'to see'.

4.74 TOCHARIAN AORISTS SHOWING ABLAUT (PIE ATHEMATIC ROOT AORISTS). The best example of a PIE athematic root aorist to be seen in Tocharian is the Tocharian B third person singular *šem* 'he came' (root: *kām*-). This form reflects PIE **gwem*-t if Winter is right in seeing PTch **lē* as the outcome of PIE **e* in stressed monosyllables (see section 3.111). Tocharian B *šem* would be directly comparable with Sanskrit *agan* (as first suggested by Pedersen [1938:184] and followed by Lane [1959:174] and Winter

TABLE 33
LONG VOWEL PRETERITES

	TOCHARIAN B	TOCHARIAN A
ACTIVE Sg.1.	lyakāwa 'I saw'	(?) 'I used to see'
2.	lyakāsta	lyākašt*
3.	lyāka	lyāk
Pl. 1.	lyakām(o)	lyākam*
2.	lyakās(o)	lyākas*
3.	lyakāre	lyākar
MIDDLE Sg.1.	lyakāmai ^a	(?)
2.	lyakātai	lyākte*
3.	lyakāte	lyākat ^c
Pl. 1.	lyakāmt(t)e ^b	lyākamāt*
2.	lyakāt(o)*	lyākac*
3.	lyakānte	lyākant ^d

^acf. *tasāmai* 'I compared', *palāmai* 'I was praised', etc.

^bcf. *karānte* 'we were gathered'.

^ccf. *cārkat* 'he was released', *pārat* 'he was carried', *šālpāt* 'he achieved for himself'.

^dcf. *pārant*, *šākant* 'they were pulled out'.

[p.c.]). The rest of the active preterite of this verb would appear to be descended from a thematic aorist (see section 4.75).⁶⁴

The Proto-Indo-European athematic aorist is also to be seen if somewhat disguised, in Krause and Thomas' Class Ia preterites. In this group we find two historically distinct Indo-European formations. The first consists of old athematic root aorists, from some of whose members the "preterital" -ā- had its origin, and the second consists of PIE thematic aorists to which has been added -ā-. In descriptive terms Class Ia includes all Tocharian ā-preterites formed from ablauting roots, i.e., those whose root vowel is -ā-, -e-, or -u- (PTch *-ā-, *-āy-, or *-āw-). From a synchronic point of view such preterites fall into two groups: subgroup 1, which shows no palatalization anywhere in the paradigm, and subgroup 2, which shows word initial palatalization in the active singular.⁶⁵ In Tocharian A the two groups may be schematically represented as shown in Table 3.

Tocharian B shows both subgroups, formed in every testable case from the same roots as in Tocharian A, but in all sui

TABLE 34
TOCHARIAN A CLASS Ia PRETERITES

	ACT. SG.	ACT. NON-SG.	MIDDLE/ PRET. PT.
(1)	CāC(C)-ā	CaC(C)-ā	CāC(C)-
(2)	CāC(C)-ā	CaC(C)-ā	CāC(C)-

examples of subgroup 1 and in most of those from subgroup 2 Tocharian B shows the generalization of the ablaut grade of the active singular to the dual and plural. An exception in Tocharian B is *śawāre* 'they ate' (sg. *śuwa*) and, by analogical extension, *śawāte* 'he was eaten'. Extremely probative is the third person dual *stāmais* 'the two of them stood' (cf. B sg. *śama*, pl. *śimāre*; A sg. *śām*, pl. *štamar*). Such forms are clearly relic in Tocharian B and show that, in this instance, Tocharian A preserves an older configuration.

Though synchronically a single unit, from the Proto-Indo-European point of view subgroup 1 has two sources. Its nucleus is formed by the root aorists to triconsonantal roots ending in *-A, e.g., PIE **t(l)leA-m* **t(l)lA-me* 'I/we raised up'. If restored correctly, the Tocharian B *tłava* 'I raised up' [584a9] may be, with the addition of the rebuilt first person singular personal ending, the exact phonological reflex of PIE **t(l)leA-m* (Lane, 1959:13; cf. also Kurylowicz, 1968:222). At some point, probably in Proto-Indo-European itself, the originally root final *-ā- was reanalyzed as an independent aorist marker which could be added to other verbal roots (see also fn. 57). In the history of Tocharian this "preterital" -ā- came to be added to most aorists, including thematic aorists of the **widé/ó-* type, and it is these refashioned thematic aorists, as Lane (1959:174) has already suggested, which comprise the bulk of subgroup 1. (For thematic aorists not so rebuilt, see section 4.75.)

In a similar fashion a PIE aorist suffix *-ē- was extracted from roots ending in *-E. When in absolute final position, as it was in the pivotal third person singular, this PIE *-ē became *-ā in Proto-Tocharian (see section 3.12). The *-ā was generalized throughout the paradigm, but the palatalization of the preceding consonant distinguished this group of aorists from those ending in PIE *-ā. This type of aorist has become largely restricted to roots ending in -s or -sk-, e.g., B *yiršante* 'they were honored' or B *ñāšša* 'he required' from

roots *yārs-* and *ñāsk-* respectively. Irregularly we find it in the active preterite of *pānn-* 'to span', i.e., *piñña* (but middle *pānnāte*). Proto-Indo-European ē-aorists have really left their mark in Tocharian however, in the preterites formed to verbs with suffixal -sk-, i.e., a Class IV preterites, e.g., *wināskau* 'I honor', preterite *wināšša* 'he honored'.

Returning to Class Ia, we find that subgroup 2, as Lane (1959:174) again saw, contains those old root aorists that we would have expected to show *e ~ Ø ablaut, e.g., *PIE *térk-m* **trk-mé* 'I/we released'. To these ablauting aorists -ā- has been more or less mechanically added, giving B *cārkā-* (active) and *tārkā-* (middle).⁶⁶

In the paradigms shown in Tables 35 and 36, subgroup 1 is represented by AB *kālp-* 'to reach, attain' and Tocharian A *kālk-* 'went' while subgroup 2 is represented by AB *kārs-* 'to know' and by B *stām* [A *štām-*] 'to stand'.

Accounting for the (PIE) o-grade of the dual and plural in the active is difficult. There is no obvious Proto-Indo-European source. I can only suggest that the o-grade is an importation somehow, from the perfect and that this importation is bound up with the general spread of the o-grade at the expense of the zero-grade in Tocharian. The pattern of subgroup 2 reminds one of the situation in Germanic preterites of Classes IV or V, e.g., in Old English *bær*, *bæron*, *boren*, with the active singular showing an o-grade, the active plural an ē-grade, and the past participle a zero-grade. In Germanic it is a lengthened *-ē- intruding, presumably from the lengthened grade aorist, into the perfect in a form where we expect the zero-grade, much as in Tocharian it is an o-grade, presumably from the perfect, intruding into the aorist in a form where we would expect the zero-grade.⁶⁸

Aorists very similar to our subgroup 1 form Krause and Thomas preterite Class Ib. These verbs, or at least the preterite of Ib, all have an unvarying root vowel -ā- and thus they show no ablaut in either language. It is not clear what the PIE aorist would have been to a root such as **wāk-* (**weAk-*?), Tocharian B *wāk-* 'to split apart, bloom'. In any case, the preterite in both languages is formed with the simple addition of the "preterital" -ā- to the root, both in the preterite itself and, unlike the verbs in Class Ia, in the preterite participle (which also shows reduplication), e.g., B *wāwāk-ā-* 'split apart, blossomed' but (Class Ia preterite participle) B *kārs-o-* 'known' with no -ā-.

TABLE 35
CLASS Ia PRETERITES, SUBGROUP 1

	TOCHARIAN B	TOCHARIAN A
ACTIVE Sg. 1.	<i>kālpāwa</i>	<i>kālkā^h</i>
2.	<i>kālpāsta^a</i>	<i>kālkāšt</i>
3.	<i>kalpa</i>	<i>kālk</i>
Du. 3.	<i>kālpais*</i>	<i>kalkenas*</i>
Pl. 1.	<i>kālpām(o)</i>	<i>kalkamās*</i>
2.	<i>kālpās(o)^b</i>	<i>kalkasⁱ</i>
3.	<i>kālpāre</i>	<i>kalkar</i>
MIDDLE Sg. 1.	<i>kālpāmai^c</i>	<i>kālpe</i>
2.	<i>kālpātai^d</i>	<i>kālpāte</i>
3.	<i>kālpāte^e</i>	<i>kālpāt</i>
Pl. 1.	<i>kālpāmt(t)e^f</i>	<i>kālpāmāt</i>
2.	<i>kālpāt*</i>	<i>kālpāc</i>
3.	<i>kālpānte^g</i>	<i>kālpānt</i>

^acf. *tsānkāsta* 'thou roset up', *tsālpāsta* 'wast freed', *riltasta* 'wast bound'.

^bcf. *pāṣkaso* 'you thought', *rankas* 'climbed up', *srukās* 'died'.

^ccf. *wārpāmai* 'I enjoyed', *sālkāmai* 'was pulled out'.

^dcf. *kāryātai* 'thou negotiatedst', *warpatai*, *sālkatai*, etc.

^ecf. *kārštāte* 'he was cut off', *pkāte* 'intended', *pārsāte* 'sprinkled'.

^fcf. *kāryāmtte*, *wārpāmtte*.

^gcf. *mālkānte* 'they gathered together', *wārpānte*, *wārskānte* 'they smelled'.

^hcf. *tākwā* (?), *pāṣkā* 'I thought', etc.

ⁱcf. *tsa[lpas]* 'you were freed'.

TABLE 36
CLASS Ia PRETERITES, SUBGROUP 2

	TOCHARIAN B	TOCHARIAN A
ACTIVE Sg. 1.	<i>śārsāwa</i> <i>ścimāwa⁶⁷</i>	<i>śārsā</i> <i>śmā</i>
2.	<i>śārsāsta</i> <i>ścimāsta</i>	<i>śārsāšt^f</i> <i>śmāšt^f</i>
3.	<i>śarsa</i> <i>ścama</i>	<i>śārs</i> <i>śām</i>
Du. 3.		<i>stāmais</i>
Pl. 1.	<i>śārsām(o)^a</i> <i>ścimām(o)^a</i>	<i>krasamās*</i> <i>ṣtamamās</i>
2.	<i>śārsās(o)</i> <i>ścimās(o)</i>	<i>krasas*</i> <i>ṣtamas*</i>
3.	<i>śārsāre</i> <i>ścimāre</i>	<i>krasar</i> <i>ṣtamar</i>
MIDDLE Sg. 1.	<i>kārsāmai^b</i>	<i>kārse^g</i>
2.	<i>kārsātai^c</i>	<i>kārsāte^h</i>
3.	<i>kārsāte^d</i>	<i>kārsāt</i>
Pl. 1.	<i>kārsāmt(t)e^e</i>	<i>kārsāmātⁱ</i>
2.	<i>kārsāt*</i>	<i>kārsāc^j</i>
3.	<i>kārsānte^f</i>	<i>kārsānt^k</i>

^acf. *śutkām* 'we gave substance/form to'.

^bcf. *klāmai* 'I was brought'.

^ccf. *klātai*, *nālkatai* 'thou wast thrust away'.

^dcf. *klāte*, *tārkāte* 'he was released'.

^ecf. *klāmtte*.

^fcf. *klānte*, *tārkānte*.

^gcf. *lymāšt* 'thou sattest', *lywāšt* 'sentest'.

^hcf. *kālpe* 'I achieved', *kle* 'I was brought', *pālke* 'I saw', etc.

ⁱcf. *kālpāte*, *klāte*, *pālkāte*, etc.

^jcf. *kālpāmāt*.

^kcf. *kālpāc*, *pālkāc*, etc.

^lcf. *kālpānt*, *klānt*, *pālkānt*, etc.

4.75 PIE THEMATIC AORISTS UNEXTENDED BY \bar{a} -. The Proto-Indo-European aorist is unextended by the usual \bar{a} - in two unmistakable cases in Tocharian B (Krause and Thomas' Class VI).

From the verb *lānt*- 'to go out', we have the following preterite:

- Sg.1. *latau*
 2. *lat* (~ *lac*? – see section 4.21, fn. 18)
 3. *lac*
 Du.3. *ltais*
 Pl. 1. *Item(o)**
 2. *latso*
 3. *latem*

As several scholars have pointed out (Winter, Cowgill, Lane—all 1962), the third person singular *lac* matches Greek *éluthen* 'he came/went' perfectly, save for the presence of the augment in the latter language. Both the Tocharian and the Greek forms would be reflexes of a PIE **Eludhet*, which may also be seen in Old Irish *luid* 'he went' (cf. Cardona, 1960).⁶⁹

Similar in form is one of the two possible preterites to the root *kām*- 'to come'. (The other preterite, attested only in the third singular, is discussed in section 4.74.)

- Sg.1. *kamau*
 2. *kamt(o)**
 3. ---
 Pl. 1. *kmem(o)*
 2. ?
 3. *kamem*

The actually attested forms of this preterite reflect Proto-Indo-European **gwm-óm* (with the usual addition of PTch **-wā*), **gwm-óme*, and **gwm-ónt*.

4.76 MODALIZED AORISTS: SUBJUNCTIVES AND IMPERATIVES. With the collapse of the Proto-Indo-European categories of perfect and aorist came, as we have seen, a reshuffling of the older formal categories on the basis of a newer functional distinction between the preterite on the one hand and the subjunctive and imperative on the other. This means that beside most categories of aorists-that-have-become-Tocharian-preterites there are aorists-that-

have-become-subjunctives/imperatives. It also means that the ubiquitous preterital \bar{a} - is paralleled by the nearly as ubiquitous subjunctive/imperative \bar{a} -.

There are no subjunctives or imperatives parallel to the reduplicated aorist of Tocharian A (section 4.72), and the imperative reflexes (there are no subjunctives) of the sigmatic aorist have been amply dealt with previously (section 4.63). The other types, however, deserve at least passing mention here. The \bar{e} -grade aorists are represented as imperatives once without an added \bar{a} -, i.e., *pāccauk* 'hide!', and somewhat more commonly with \bar{a} - in those imperatives of Krause and Thomas' Class II with an etymologically long root vowel, e.g., B *śālat* 'be led!' (pl.). Old athematic aorists are seen in those Class I imperatives with word-initial palatalization (the palatalization of the active singular has been extended to the whole of the paradigm), e.g., *pāścama* 'stand!' [A *pāśśām*, pl. *pāśmāc*]. The Class I imperatives that show no palatalization, and yet come from ablauting roots, presumably reflect old thematic formations, e.g., *pwikaso* 'avoid!' (pl.). This latter group of imperatives is paralleled by a large number of non-ablauting Class V subjunctives—the large subclass of that multifarious group. The remainder of "aorist" imperatives of Class I and subjunctives of Class V are built to "long vowel" roots and are exactly parallel to the group of Class Ib preterites discussed in section 4.74. The preterites in (PIE) \bar{e} - are matched by Class IV imperatives (all to roots in $\bar{s}ke/o$ -).

4.8 BRIEF RECAPITULATION OF THE TOCHARIAN DEVELOPMENT OF VARIOUS PROTO-INDO-EUROPEAN PERFECTS AND AORISTS. As a way of bringing some graphic overview to the complex relationships obtaining between the Proto-Indo-European perfects and aorists and their Tocharian reflexes, we close our discussion with the chart shown as Table 37.

Table 37
BRIEF RECAPITULATION OF THE TOCHARIAN DEVELOPMENT
OF VARIOUS PIE PRETERITES AND AORISTS

	PRETERITES	(A) IMPER- FECTS ⁷⁰	SUBJUNC- TIVES	IMPERATIVES
PIE PERFECTS				
1) Perfects	AB Class III	(399.2)	AB Class I	AB Class III
2) Perfects + -ā-	B Class Ib— those showing (PIE) o ~ Ø ablaut		AB Class V— those showing (PIE) o ~ Ø ablaut Also those "long vowel" subjunctives to ablauting roots (PIE o-grade generalized)	AB Class I— those showing (PIE) o ~ Ø ablaut
PIE AORISTS				
1) Sigmatic + -ā-	AB Class III— Middle and third sg. active	(399.2)		AB Class III
2) Redupli- cated + -ā-	A Class II			
3) ē-grade root without -ā-				B Class II— <i>pāccauk</i> (caus.)
4) ē-grade root + -ā-	B Class Ib— <i>lyāka, plyawa,</i> <i>lyawa</i>	<i>lyāk</i> , etc. (399.1)		AB Class II (causatives)
5) Athematic to roots in *-A	AB Class Ia— <i>flava</i> (?)			
6) Athematic to roots in *-E	AB Class Ib— those showing end palatalization	(397.1)		AB Class IV

Table 37 (cont'd)

	PRETERITES	(A) IMPER- FECTS ⁷⁰	SUBJUNC- TIVES	IMPERATIVE
7) Athematic to other ab- lating roots + -ā-	AB Class Ia— those showing (PIE) e ~ Ø ablaut			AB Class I— those showing initial palatalization
8) Athematic to non-ab- lating roots + -ā-	AB Class V AB Class Ib— those showing non-ablating "long vowel" stems		AB Class V— those showing non-ablating "long vowel" stems	AB Class V AB Class I— those showing non-ablating "long vowel" stems
9) Thematic without -ā-	B Class VI			
10) Thematic + -ā-	AB Class Ia— those showing (PIE) Ø ~ (o) ~ Ø ablaut		AB Class V— those showing non-ablating "weak vowel" stems, e.g., B <i>triw-</i>	AB Class I— those showing non-ablating "weak vowel" stems, e.g., <i>pwikaso</i>

4.9 INHERITED MODAL CATEGORIES. The modal categories inherited from Proto-Tocharian can be handled with more dispatch. There is general agreement, for instance, that the Proto-Tocharian optative (and therefore also the Tocharian B imperfect) is normally the reflex of the PIE athematic optative in *-yē- ~ *-ī- (i.e., *-yeE- ~ *-iE-). Proto-Tocharian shows the almost universal extension of the weak grade of the suffix, in common with Germanic and Latin. The consonant preceding the optative sign *-ī- will show Tocharian palatalization where possible.

Certain classes of verbs, however, those ending in (thematic) *-o- or -o- (PIE *-o-), or (athematic) -ā- and -nā- show no palatalization in either language. This lack of palatalization has led some to believe that we see in these verbs some remnant of an old thematic optative in *-oy-. (Word final *-oy-, when unstressed, would give PTch *-āy [i] or -ī- see section 3.11.) However, it is also possible that the lack of palatalization in these stem types is analogical (so Van Windeker 1980:230). One should note particularly that all "regular" *-e/o- the-

atic verbs show a palatalizing *i*-optative. The case for analogical rebuilding is all the stronger when one realizes that already in Proto-Tocharian time the inherited optative had ceased to be a derivationally independent category formed directly from the verbal root and had become a derivative to the subjunctive stem. (Likewise, the formally identical imperfect in Tocharian B is a derivative of the present stem.)

What is sometimes taken (so Watkins [1969:201-202]) as conclusive evidence of the survival of the **-oy-* optative in Proto-Tocharian are the imperfects B *yey(o)* [A *yeṣ*] and B *ṣey(o)* [A *seṣ*] 'he was going' and 'he was being', respectively. The hypothesis goes something like this: a late Proto-Tocharian **ṣē ~ ṣīn(t)* (PIE **syēt ~ *sīnt*) was rebuilt to **ṣey*, etc., on the basis of the stage reached by the thematic optative. The parallel of Gothic *isjai* 'he may be' is usually adduced. This may have happened but, if so, it is certainly odd that the optative of 'be' and 'go' should be reformed on the basis of the *oy*-optative which was so obviously recessive. Particularly in the case of 'be', which surely inherited the dominant athematic optative as part of its paradigm, it is strange to see this shift.

Another and more probable explanation is to assume a situation in Proto-Tocharian similar to the one we find in pre-Classical Latin: the *-ī-* of the plural had been generalized everywhere at the expense of **-yē-* except in the very common optative of 'be' (and as far as Tocharian is concerned, probably of 'go' also). In Tocharian this would have meant a singular stem **ṣē-*, plural in **ṣī-*. The singular stem *ṣē-* was completely isolated in Tocharian (except for its partner **yē-*) and had to be taken as a unit (i.e., it was not synchronically divisible into **ṣ-* + **ē-* or the like). What is more probable under these circumstances than the simple addition of the productive optative suffix **-ī-* to the anomalous **ṣē-* (i.e., as **ṣē-ī-*), so as to make this particular optative conform to all others? If this explanation is correct, there is no reason at all to think that Tocharian ever had any *oy*-optative.⁷⁰

As we have already seen in section 4.23, the Proto-Indo-European imperative has been very largely lost in Tocharian. Only a few thematic imperatives, such as B *klyauṣ* 'hear!' (PIE **klēwse*) or B *pete* 'give' and *ptalle* 'lift up!' (PIE **dOó* and **tlnAó* [Watkins, 1969:208]) remain. The vast majority of PIE imperatives has simply vanished. Their place has been taken by those modalized perfects and aorists discussed in sections 4.63 and 4.76.

NOTES

1. "Suggest" is the key term here, as reconstruction can never "prove" absence of some feature, only its presence. A classic example is provided the history of the Latin future and future perfect. Comparative and internal reconstruction, using the data of the contemporary Romance languages, would demonstrate that the common Romance future is late and periphrastic in origin. We would have no way of knowing that it replaced an older, inflectional future with essentially the same function. So, too, while formal traces remain of the future perfect in the Iberian languages, it is most doubtful that its functional history would ever be guessed at if we had only contemporary data to work with.
2. See Watkins, 1969, and Jasanoff, 1977.
3. Though whether the two were paradigmatically related in earlier Proto-Indo-European is questionable.
4. Certain of these same affixes, most noticeably perhaps *-ye/o-*, *-eA-*, and *-o-* were also used to form denominative verbs from nominal stems, e.g. **Erowdh-eE-* 'to redden, blush'. Kurylowicz (1964:105-109) would see all the *deverbative* stem formatives as denominal in origin and, ultimately, iterative in meaning. Underlying this layer of derivation was another, older, one involving "enlargements," i.e., consonantal additions of indeterminate meaning added directly to verbal roots. Thus Proto-Indo-European had a root **plew-* 'swim, float, fly' which gave Tocharian B *plu-* as in *plyewām* 'he flies' (or [su] 'he will fly?') and also **plewd-* 'to flow', which gave the Tocharian B root *p-* (from PIE **plud-*) 'to drip'. This layer of derivation need not concern us too much in this study, though it should be pointed out that there are many roots in Tocharian which end in *-w* representing a PIE enlargement in **-w*, e.g., B *wl-* 'to control oneself' (cf. *walo ~ lānt* 'king' without the **-w*), A *ritw-* [B *ritt-*] 'to joined to', etc.
5. Exceptions to this generalization were denominative formations which normally had but one stem in Proto-Indo-European, and that a present. Aorists and perfects to such stems are the later development of the individual language families that have them. Also exceptional are certain roots, such as **(E)es-* 'to be', which semantically did not admit of such aspectual differences.
6. It is in the formation of the iterative that pre-Tocharian differs most noticeably from pre-Celtic. In Tocharian we find the verb root with the addition of **-s(k)e/o-*, whereas in Celtic we have the (younger?) formation of the verb root with *o*-grade and suffixed by **-eye/o-*.
7. If either the presents or the iterative formed "imperfects" in that variety of Proto-Indo-European that gave rise to Tocharian, they have left no descendants.
8. The only formal evidence for an inherited subjunctive category is provided by the Tocharian subjunctive to the root *kām-* 'to come': Tocharian A (third sg.) *śmās*; Tocharian B (second sg.) *śamt(o)*, or (third sg.) *śamn*. This formation is thematic, and the PIE prototype would have been **gweme/o-*. Such a formation does not have the look of a displaced present which is the usual source of the Tocharian subjunctive, so it may be original (cf. the Sanskrit subjunctive stem *gama-*).

9. Analogous is the replacement of simple inherited presents by the derived "frequentatives" in Latin, e.g., *portāre* 'to carry' or *canere/cantāre* 'to sing'.
10. Perhaps "derivative" would be a better word than "causative." While the derived, secondary verb is usually causative (i.e., transitive if formed from a basically intransitive verb root or a "true" or mediative causative [see Masica, 1976:40ff.] if formed from a transitive root), it may instead be eventive or intensive. One should note that the younger formation with o-grade and suffixed *-eye/o- of Proto-Indo-European is also present in Tocharian but does not become a causative as happened in Germanic, etc.
11. Particularly striking in this regard, and at variance with the development seen in most branches of Indo-European, is the replacement of the first person singular ending of the perfect, *-Ae, by *-wi whose earlier status in the system of personal endings is problematical but which reappears in Anatolian, e.g., Luvian *-wi (see Watkins, 1969:48 and 207).
12. PIE *-stesi would have given *-stjāsa > *-st'sā > *-ssā > -s(ā). A recapitulation of discussions of this superficially difficult ending is to be found in Van Windekens (1982:283-285).
13. The optional -ā- of this and other forms is epenthetic and arises out of certain clusters (see section 3.19).
14. The -i- of this and other forms indicates that the preceding consonant shows palatalization.
15. The -er of the second person plural in Tocharian B is unexplained. (For a suggestion, see Van Windekens, 1978.)
16. The final -ñc of the third person plural of Tocharian A may disappear (see section 3.45).
17. For a discussion of other proposed solutions to the problem of the third person singular endings see Van Windekens (1982:264-266).
18. Perhaps where the preterite -ā- was being added to preterite stems originally without it, there was a period of vacillation when the third singular might be either -Ø or -ā. Given such a hesitation, the first and second persons might have joined in as either -w or -wā and -st or -stā respectively.
19. No preterite forms to the root *kām-* are attested in Tocharian A. Also the preterite of *lā(n)t-* in Tocharian A has been rebuilt by adding the regular endings to the old third person singular, *lāc*, taken as a root.
20. Also attested is a third person dual, *lāis* /lāte-is-ā/ — see section 4.24.
21. The second person singular *lac* of B 224a2 may not be, as Sieg, Siegling, and Thomas suppose, a mistake for *lat*.
22. Given his explanation of the development of the Proto-Indo-European middle and the existence of these Sanskrit forms (which he cites, pp.90-91), it is strange that Watkins (1969:200) sees Tocharian B *stare* as analogical after the Tocharian preterite. Even stranger is Van Windekens' (1982:76) derivation *skt- > st (i.e., *s-sk-t- with an athematic -sk-).
23. A corresponding third person singular does not exist in Tocharian. An expected PIE *s-ske-to would have given Tocharian B *ste, while a PIE *s-skō (with

zero-ending) would have given *ske, either of which may have been too close phonetically to *ste* to have survived.

24. The first person plural shows the same added particle *-dha as does Greek while the second person plural shows the same ending, from whatever source as Greek -(s)th[w]e or Indic -dhvāi/-dhvam (Watkins, 1969:128). Otherwise, see literature, Van Windekens, 1982:276-277.
25. Jasanoff (1977) suggests that Tocharian reflects PIE *-tri, *-ntri rather than *-tor. Such an origin is possible phonologically in Tocharian, but the morphological reshaping we need to assume are more complicated and the extra Tocharian evidence for them is not compelling.
26. One should note that the usual repartition of the primary and secondary endings as present versus past does not hold for either of the archaic copulas of Tocharian B. The singular *ste* and the plural *skente* show byforms, *star* and *skent*, respectively, from PIE *stA-ó-r and *s-skónto-r. In the grammar of Tocharian the "secondary" endings are found without an enclitic pronoun, while the "primary" ones are normally seen only before an enclitic. This is added evidence, more were needed, that the distinction between primary and secondary is very late in Indo-European and a development of the independent branches rather than of the proto-language itself.
27. For convenience, these are all shown with the PIE thematic vowel *-o-. One should note that ā-umlaut does not affect the thematic vowel.
28. As in the active, the primary endings are also found in the optative in Tocharian A and B, and in the formally identical imperfect of Tocharian B. Again as in the active, the Tocharian A endings are all athematic, while in Tocharian B the thematic endings appear, save in the first person singular, where we find the athematic -mār rather than thematic -emār.
29. Tocharian A *plāc* 'come out!' is usually included here (cf. Watkins, 1969:208). If such an assignment is doubtful, since the entire preterite in Tocharian A, and the corresponding imperative, presumably, has been rebuilt on the basis of the inherited third person singular *lāc* 'he went out' from PIE *Eludhāt.
30. For a discussion of the history of the imperative prefix (and a different conclusion than that given here), see Van Windekens (1982:233-235). The prefix is occasionally lost when it comes to form the first consonant of a cluster.
31. Both Van Windekens (1976:309) and Winter (p.c.) take B *nes-* [A *nas-*] to be from PIE *nes- [cf. Greek *néomai* 'I go, come (back)']. Winter, at least, takes Tocharian verb to reflect an old preterite-present.
32. Van Windekens (1982:287) would segment this form as *tāk-ena-s* with the -en- being ultimately the same element seen in dual nouns such as A *pokem* 'the arms'. With the exception of the present active -tem (PIE *-tom u for him), Van Windekens would describe all the verbal dual endings in Tocharian as nominal duals plus second person plural person-number endings. To my mind, none of his explanations is at all likely.
33. A verb like A *lik-* 'to wash' shows a neological zero-grade, PTch *lāyk-.
34. All other forms of this verb, in both languages, are built from a stem *dhE-se. Winter (p.c.) points out that since the reduplication occurs only in the prete-

and subjunctive, it may be better to start from a PIE reduplicated perfect than a reduplicated present. If so, then there are no reduplicated presents in Tocharian.

35. It is possible that the functional distinction was marked by a formal one wherein the factatives took thematic middle endings while the deverbatives took athematic active endings (vid. Watkins, 1971:85-86, fn. 35).
36. The only productive denominatives in either language are analytical, i.e., those composed of a noun (in the accusative) plus AB *yām-* 'to do, make'.
37. The relationship in Tocharian A between *ksā-* 'to blind, dazzle' and *kās-* 'to extinguish' is similar to that existing in Sanskrit between *psā-ti* 'he chews thoroughly' and *ba-bhās-ti* 'he chews'.
38. The same stem exists in Tocharian A, though extended in a different way: *tus-* (PIE **dhuH-se/o-*).
39. AB *su/swā-* 'rain' probably does not belong here. Only the third person plural of the present is attested in either A or B. In A we have *swiñc* (plus a middle participle, *sūmāne*), while in B we find *suwam* (and the middle participle *swāmane*). Together they suggest a late PIE (third sg.) **swéA-ti*, (pl.) **suA-énti*.
40. The distinction between AB *lākā-* 'to see' and AB *luk-* 'to illuminate', however, seems to be more one of endo-active (with *-ā-*) versus exo-active (without *-ā-*).
41. But "short" forms are attested, e.g., *kāttarīkām* 'they cross over' [B3a4].
42. As Winter points out (1980:441-442), *-nā-* has become a favored marker of transitive presents in Tocharian.
43. Was this formation originally iterative-intensive? Compare Baltic.
44. We also find this conjugational type extended (secondarily?) to a couple of examples of **-skē/o-* verbs and perhaps one **-se/o-* verb.
45. Where presents are attested to Class IV subjunctives in Tocharian B (whether the subjunctives are originally denominative or deverbative), they are built secondarily with *-āsk-*, e.g., *wsaṣṣām* 'he abides' but *wṣiyau* 'I will abide'.
46. Since Class IV subjunctives do not exist in Tocharian A and since, in general, Tocharian A forms are less well attested, Tocharian A can at best only confirm the paradigms deduced from Tocharian B data. It should be noted that, except for the first and third persons singular, the Class IV subjunctives in Tocharian B will be identical with the corresponding optatives.
47. The possibility exists that the combination **-n-ye/o-* was already deverbative in Proto-Tocharian and had been so since late Proto-Indo-European times, since the exact phonological equivalent is seen, for instance, in Greek *-ainō*. In support of such a supposition is the fact that there seems to be some sort of relationship between the verbal stem formatives *-nā-* and *-āññ-*, e.g., A *klisnā-* 'to sleep' but B *klāntsāññ-* 'id.'.
48. When we do find **-se/o-* as a synchronically separable verb formative outside Tocharian, it is usually associated with desiderative meaning rather than iterative-intensive. Thus it is possible that the original iterative-intensive meaning that we see in Tocharian was a Tocharian innovation.
49. When **-skē/o-* was added to stems ending in a dental obstruent, the resultant cluster, **-isk-*, was simplified to *-tk-* in Tocharian (see section 3.43). This group

of verbs, those ending in *-tk-*, is ably discussed by Melchert (1977). Another less satisfying explanation is offered by Van Windekens (1982:10).

50. Reduplication in Tocharian is confined to the reduplicated aorist (section 4. and the preterite (originally perfect) participle. The hidden reduplication in Krause and Thomas (1960:247) see in *temtsate* (from **tātemtsate*) is surely illusory.
 51. Such a perfect will appear in Tocharian A either as a preterite or as an imperfect.
 52. The first identification of the Class I subjunctives of Tocharian A with the Indo-European perfect was evidently that of Van Windekens (1944:267). An independent and more fully justified identification was provided by Lane (1959:160). The hesitation of Cowgill (1967:172) and the alternative suggestion of Kurylow (1968:258) are unnecessary.
 53. A very different explanation of B *-oy* is found in Van Windekens (1982:223).
 54. An exception, the only one I know of, is the paradigm of the subjunctive of *tsām-* 'to grow', which shows an alternation of */tsāmā-/* and */tsāmā-/*. Winter (p.c.) takes these two to reflect two paradigms.
 55. Both the active singular and plural in Tocharian A look much as if they had suffixal *-ā-*. The singular is ambiguous but the plural is clearly without it (otherwise the form should appear as **ptārkāś*) and analogous to the next group to be discussed.
 56. Winter (p.c.) does not think that PIE **ē* and **o* had identical outcomes in Proto-Tocharian. If he is right, then the conflation of perfect and (i)s-aorist remains mysterious.
 57. Only third person forms are attested but, given the relative paucity of non-third person forms in general, this may be accidental.
 58. So, too, *lamāt* would indicate **dhom-*. *Lyokāt* could be from **lēwk-* if it is not, Watkins plausibly suggests, a secondary development after the active *lyokās*.
 59. Confusing the issue, and clouding our identification, is the fact that Class I preterites also contain a number of old aorists (possibly perfects?) with generalized *ē*-grade. Our example */pāikā-/* could be from either **poyk-ā-* or **pēyk-* though there are other preterites, such as B *lāupā-* 'smeared', which must have original *o*-grade.
- It is noteworthy that, where we can tell, all the Tocharian B preterites of this class show movable stress. They are therefore unlike the subjunctives derived from the PIE perfect, which show fixed initial stress. The stress pattern in the preterite may be analogical after that of the original aorists which form the majority of the preterites of Class I.
60. A discussion of this *-ā-*, with full bibliography up to 1982, is to be found in Van Windekens (1982:118-119). The origins and interconnections of the *ā*-preterites and subjunctives in Tocharian Italo-Celtic (e.g., Latin *erat* 'he was' and *dixerat* 'he might have said') and Balto-Slavic (e.g., Lithuanian *būvo* 'he was') has recently been the subject of renewed interest. Jasanoff (1983), for instance, sees in Tocharian *-ā-* the reflex of two PIE etyma: (1) an originally root-final *-ā-* that was reanalyzed as a tense-aspect marker and (2) another *-A-* which was

tense-aspect marker (like the better-known -s-) as far back as we can reconstruct. This second -A- might appear by itself (as in Tocharian) or in combination with the thematic vowel -e- (as -eA-) in verbs forming a thematic present. It is this -eA- (semantically a "conditional") that in his opinion is the origin of the *ā*-subjunctives and *ā*-preterites of Latin. For Oettinger (1984), who also believes that PIE **-ā-* gave PTch **-o-*, the Tocharian forms (from root-final laryngeals) must be separated on phonological grounds from the *ā*-formations in Latin, Celtic, Baltic, and Slavic. Finally, for Schmidt (1985:67) the Tocharian formations are to be equated with those of Latin, etc. as reflexes of a PIE injunctive to a de-verbal *ā*-iterative. Clearly, the last word has not been said on this complicated subject, but surely the morphological and semantic parallels of the Tocharian and Italo-Celtic formations at least argue for a common origin.

61. For the original identification of these preterites as Proto-Indo-European reduplicated aorists, see Pedersen, 1941:174ff.
62. The first person singular is attested twice, in the particular form given here and a *rariwā* from the root *ritw-* 'to bind'. One would expect for the latter **rariwāwā*. Krause and Thomas (1960:244) explain *rariwā* as an instance of haplogy. See also Winter (1965b).
63. Normally causative and non-causative preterites are (secondarily?) distinguished from one another by their stress patterns. The non-causatives always show movable stress, while the causatives almost always show fixed initial stress (but *śarsāre* is an exception). One should compare the fixed initial stress of the causative presents in *-āsk-* (see section 4.5). For more detail and discussion, see Winter, 1980.
64. If the PTch **jē* seen in B *śem* is from PIE **ē*, then *śem* reflects a PIE long vowel aorist (see section 4.73) without the addition of *-ā-* and is directly equatable with Latin *venit* (Krause and Thomas, 1960:53).
65. Roots with non-palatalizable initial consonants are, of course, not assignable.
66. One should compare the old perfect to this root, PIE **tork-* ~ **tṛk-* which, as we have seen, appears in the subjunctive, B *tārkau* ~ *tarkam* 'I/we will release'.
67. The forms given to illustrate this paradigm are the phonologically longest. The underlying form is */ścāmā-/*. The *-ā-* may become *-i-* in this palatalizing environment (see section 3.17). If it does not become *-i-*, it disappears in the unstressed open syllable. The initial cluster *śc-* may simplify to *ś-*. Thus we find *ścimā-* (as illustrated here), *śimā-* (with cluster simplification), *ścmā-* (with loss of unstressed schwa in an open syllable), or *śmā-* (with both).
68. The origin of the PIE *-o-* seen in the dual and plural active remains one of the most vexing riddles in Tocharian morphology. In the complete absence of any obvious analogical model it would seem archaic, but extra-Tocharian parallels are also completely lacking. For a discussion of this problem, with bibliography, see Van Windekens (1982:121-125). Another suggestion (not very probable) is offered by Jasanoff (1983:56-57) who sees it as possibly the outcome of a "mirror image" analogy on the subjunctive. The subjunctive has singular *o*-grade, plural *Ø*-grade, so the preterite has singular *Ø*-grade, plural *o*-grade.
69. The alternative etymology of this verb (Pedersen, 1941:173 or Watkins, 1969:206-207) which sees Tocharian B *lac* as the exact equivalent of Greek

lálthe (*lathánō*) is less attractive. Phonologically I would expect the Tocharian cognate to have root internal **-ā-* (see section 3.11). Semantically, too, the equation is less attractive. In any case, all are agreed that this Tocharian verb represents a PIE thematic aorist.

70. The numbers in this column refer the reader to the appropriate section of Siegel, and Schulze (1931). The Tocharian A imperfects are formally identical with the corresponding preterites and have the same PIE sources.
71. Another example of analogical reshaping is provided by the Tocharian imperfects/optatives to stems ending in *-ā-* and *-nā-*. In these cases, too, the regular optative suffix, **-ī-*, was added directly to the stem, yielding **-āī-* and **-nāī-*, which give in turn the attested *-oy-* and *-noy-*.

Chapter V

THE NOUN

5.0 INDO-EUROPEAN BACKGROUND. As was the case with the verb, Proto-Indo-European showed a fairly complex nominal morphology. There were any number of derivational affixes which could be used to create nouns or adjectives. We are more concerned here with the inflectional morphology which itself showed a high degree of complexity with three numbers: singular, dual, and plural, eight cases: vocative, nominative, accusative, genitive, dative, ablative, locative, and instrumental, and three genders: masculine, feminine, and neuter.

5.01 CASE-AND NUMBER. Turning our attention first to the questions of case and number, we might think that a system of three numbers and eight cases should mean a paradigm composed of twenty-four separate forms, but actually there were considerably fewer. No paradigm showed, so far as the comparative evidence allows us to see, more than six separate case forms in the plural (with the vocative and nominative combined and the ablative with the dative) nor more than three in the dual. Only one paradigm type, that of the thematic nouns in *-o-*, showed an ablative distinct from the genitive in the singular. Among the neuters there was no distinction of vocative, nominative, and accusative in any of the three numbers.

In any event, Proto-Tocharian simplified considerably its inherited case system. The dative, ablative, locative, and instrumental all disappeared without a trace.¹ As in other Indo-European languages which show similar reductions, these losses were made up for by the increasingly close association of the noun, usually in the accusative but occasionally also in the genitive, with pre- or post-positions. In both Tocharian languages the combination of the accusative noun and certain post-positions has become so tight that the post-positions

are usually considered case markers. However, this development must have been only incipient at the time of the break-up of Proto-Tocharian, since the actual desinences of this "second story" of cases show almost no agreement between the two languages. It is also worth noting that in combinations of two or more conjoined nouns, it is normally only the last which shows an overt "second story" case ending. Likewise, adjectives do not normally agree with their nouns in these secondary cases but show up in the accusative forms.

Ignoring these later developments, Proto-Tocharian must have shown a nominal paradigm which contrasted three numbers and, at least in the singular, four cases (Table 38).

TABLE 38
PRESUMPTIVE SYSTEM OF NOMINAL DECLENSION IN
PROTO-TOCHARIAN

	SINGULAR	DUAL	PLURAL
Voc.	X	} X	} X
Nom.	X		
Acc.	X		X
Gen.	X	X	X

5.02 GENDER. In addition to these purely inflectional categories of case and number, Proto-Indo-European knew the category of gender, which was on the borderline between inflection and derivation. A little internal reconstruction demonstrates that in earlier stages of Proto-Indo-European gender was derivational, but by the time of late Proto-Indo-European gender should probably be considered inflectional, at least for adjectives, since they had come to show concord for gender as well as for case and number with their head nouns.

In the history of Tocharian the neuter has been largely lost. The only synchronic remnants of it are in the third person, anaphoric pronouns where the separate neuter remains the proper anaphoric for whole concepts or clauses, serving much the same function as *ello*, etc., do for Spanish. Unlike the situation in the history of the Romance languages, where the neuter was lost largely by the wholesale reassignment of originally neuter nouns to the masculine

gender (aided by the falling together in some dialects of the masculine and neuter singulars phonologically), in Tocharian the process apparently started in thematic adjectives and was phonologically induced, as Table 39 suggests.

TABLE 39
PHONOLOGICAL DEVELOPMENT OF THEMATIC ADJECTIVES IN
PROTO-TOCHARIAN

		Masculine	Neuter	Feminine
Proto-Indo-European	SINGULAR			
	Nom.	-os	-om	-ā
	Acc.	-om	-om	-ām
	PLURAL			
	Nom.	-oy	-ā	-ās
	Acc.	-ons	-ā	-ās
Proto-Tocharian ²	SINGULAR			
	Nom.	-e	-e(n) ~ -ā(n)	-ā
	Acc.	-e(n) ~ -ā(n)	-e(n) ~ -ā(n)	-ō(n)
	PLURAL			
	Nom.	-ey ~ -āy	-ā	-ā
	Acc.	-ens	-ā	-ā

As we can see, the neuter was not really lost as such in this class, but rather became phonologically indistinguishable from the masculine in the singular and the feminine in the plural. Because thematic adjectives were overwhelmingly the most frequent class of adjectives,³ all other adjective classes followed suit, leaving a situation where some nouns (PIE masculines) take masculine concord in both the singular and the plural, some nouns (PIE feminines) take feminine concord in both the singular and plural, and some nouns (PIE neuters) take masculine concord in the singular but feminine in the plural. In synchronic terms this third group are nouns of "alternating" gender and are so designated in Krause and Thomas (1960). Since this is a historically-oriented study, where we will have occasion to speak of this alternating class we will continue to refer to it as the Tocharian neuter.

5.03 PATTERNS OF ACCENT AND ABLAUT. From a formal point of view, it appears that Proto-Indo-European nouns were distinguished not only by the presence or absence of particular nominal derivational suffixes but also by adherence to one or another of a

small number of accentuational classes. Among non-thematic nouns, for instance, there appear to have been five accent classes.

The primary distinction was between those nouns which were inherently accented and those which were not. In the first group accent was fixed either on the root syllable or on the stem formative. In the second group we find surface accent assigned to the last accentable syllable of the word by a rule we might call the "Residual Accent Rule." Words with the accent fixed on the root syllable are called "acrostatic," while those with the accent fixed on the stem formative are "mesostatic." Words accented by the Residual Accent Rule are accented on the stem formative in the "strong" cases (i.e. the nominative and accusative singular and the nominative plural) and on the case/number desinence in the "weak" cases (all others) and are called "hysterokinetic" (= "hysterodynamic").

Complicating this picture is the action of another accent rule operating after the Residual Accent Rule, to certain inherently accented and inherently unaccented words. This rule we can call "Accent Retraction," and it retracts the accent by a single syllable in the strong cases only. Thus, operating on a mesostatic word, it will produce a situation whereby the root syllable is accented in the strong cases while the accent remains on the stem formative in the weak cases. This group of words form the "proterokinetic" (= "proterodynamic") group. Similarly, operating on a hysterokinetic word, it will produce a word with the accent on the root syllable in the strong cases and on the case/number desinence in the weak ones. These are the "holokinetic" (= "amphikinetic") nouns. We can illustrate the resulting possibilities (Table 40) from the animate (i.e., non-neuter) *n*-stems (after Oettinger, 1980).⁴

In these examples at least, the pattern of ablaut is easily derived from the place of accent: stressed syllables have *e, unstressed stem syllables of strong cases have *o and other potential syllables have zero-grade. However, the ablaut pattern in other stem classes was not necessarily the same. Thus the unstressed stem syllable in animate *i*- and *u*-stems, as well as all neuters, apparently shows the zero-grade, e.g., *pértus (gen. *pértus) 'crossing' or the neuter *yēkw̥r (gen. *yēkw̥ns) 'liver'. As the word for 'liver' also shows, the root syllable might also have varied vowels, at least among the acrostatic nouns. In these nouns the strong cases might show either (Type A) or *ē (Type B), while the weak cases had *e.

TABLE 40
ACCENT RETRACTION

	STRONG (nom. sg.)	WEAK (gen. sg.)	
I. (akrostatic)	*tékpō(n)	*tékp-n-(o)s	'carpenter'
II. (mesostatic)	*poAi-mē(n)	*poAi-mén-s	'shepherd'
III. (proterokinetic)	*éEt-mō(n)	*Et-mén-s	'breath'
IV. (hysterokinetic)	*Auks-ē(n)	*Auks-n-és	'steer'
V. (holokinetic)	*Eéd-wō(n)	*Ed-un-és	'pain'

As we can see, the strong cases of the mesostatic and hysterokinetic paradigms, on the one hand, and the proterokinetic and holokinetic, on the other hand, were indistinguishable, and likewise the weak cases of the mesostatic and proterokinetic on the one hand and the holokinetic and hysterokinetic on the other. Thus there was a lot of room for analogical transfer from one accent class to another. Already in late Proto-Indo-European this tidy but complicated schema was in the process of being rebuilt analogically, and no descendant of Proto-Indo-European shows this pattern in anything like its primeval guise.

In that variety of Proto-Indo-European that gave rise to Tocharian there was evidently a tendency to conflate the proterokinetic and hysterokinetic types into a single paradigm with a hysterokinetic nominative coupled with a proterokinetic accusative. Thus, the PIE paradigm for 'father', nom. sg. *pAtēr, acc. sg. *pAtérn, gen. sg. *pAtrós (a pattern preserved intact in Greek) might have looked something like *pAtēr, *pAtrm, *pAtrós in pre-Proto-Tocharian.⁵

Neuters, on the other hand, in Tocharian often show a predilection for akrostatic or holokinetic types—particularly the former. The tendency accounts for the large number of neuters in Tocharian which show a lengthened grade of the root vowel, e.g., Tocharian A *sanwem* 'jaws' (du.), which presupposes a PIE *gēnu.

5.1 DEFINITE AND INDEFINITE IN PROTO-TOCHARIAN. Beyond the reduction in case and gender we have outlined, the major systematic or structural change to occur in the early Proto-Tochar-

ian nominal system was the rise of a thoroughgoing distinction between definite (or "particulative") nouns and adjectives, morphologically *n*-stems, and indefinites of other morphological classes. From the comparative point of view it is important to note that this particular specialization of *n*-stems was common to both Proto-Tocharian and Proto-Germanic. The productivity of *n*-stems as particulatives or definites was also shared by other Indo-European groups to a smaller extent, particularly by Latin and Greek, where they often had affective meaning, e.g., Greek *Strábōn* versus *strabō* 'squinting' or Latin *Catō* versus *catus* 'sharp, cunning' (see now Maher, 1974:148-149). In Greek and Latin this possibility remained rather peripheral, but it was evidently an option much more widely used in Germanic and Tocharian. The result in Germanic and Tocharian was that many nouns, originally of other stem classes, were replaced entirely by their corresponding *n*-stem counterparts: e.g., Gothic *augo* 'eye' or the word for 'tongue' in both Germanic and Tocharian: Gothic *tuggo* or Tocharian B *kantwo* [A *kāntu*].

More importantly, in the dialects of late Proto-Indo-European ancestral to Germanic and Tocharian, the singulative or definitizing function of the *n*-stem was extended also to adjectives—perhaps by way of the use of singulative nouns as nominal modifiers. This extension created parallel declensions of semantically definite adjectives on the one hand (which were morphologically *n*-stems) and semantically indefinite adjectives on the other (morphologically of other stem types).⁶ In Germanic this contrast is that between "weak" adjectives and "strong" ones.

Proto-Germanic ultimately lost the ability to form parallel singulative nouns, but the two declensions of adjectives have remained remarkably stable—being retained to the present by most Germanic languages. In Proto-Tocharian, on the other hand, the situation was transformed by the re-analysis of the definites/particulatives as nouns denoting rational beings. As a result of this re-analysis, parallel *n*-stem nouns were now limited to those nouns which denote rational beings, and *n*-stem parallels to other nouns disappeared. Then, where the two varieties of declension still existed side by side as was the case for nouns denoting rational beings, they merged. Normally the merger was under the form of the "strong" declension but with the accusative singular after the form of the old *n*-stem, i.e. with PTch *-nā(n).⁷ Finally, as a corollary, the accusative singular *-nā(n) of etymological *n*-stems of nouns NOT denoting rational

beings was lost, as it was felt inappropriate outside of the semantically defined class. Somewhere along the line the Proto-Tocharian "strong" and "weak" adjectives also fell together, though without any discernible semantic basis determining the outcome (see also Adams, 1980).

Formally, it would appear that "weak" nouns and adjectives were usually constructed by adding a suffix $*(E)en$ -⁸ to the pre-existing stem. Thus, beside ordinary thematics we have stems in $*-e-Een$ -,⁹ beside \bar{a} -, i -, and u -stems there were $-\bar{a}-Een$ -, $-i-Een$ -, and $-u-Een$ - respectively. These particular formations are probably all relatively young. With \bar{a} -stems we also find abundant traces of an older enlargement $*-\bar{a}-n$ - ($< *eA-n$ -) seen also in Germanic (compare Gothic *tuggo* 'tongue' and Tocharian B *kantwo*—the latter with metathesis of initial and medial stop).

5.2 NOUNS AND ADJECTIVES IN (PIE) $*-o$ - and $*-\bar{a}$ - ($*-eA$ -). Though nouns and adjectives were declined alike in Proto-Indo-European, whatever their stem class, their morphological histories have diverged sufficiently in Tocharian that it becomes convenient to take them up separately. We will start then with nouns and, among them, with the commonest single subtype, the thematic noun. Our discussion will be limited to the nominative and accusative; for the genitive, see section 5.8. The dual, too, will be taken up separately in section 5.7.

5.21 NON-NEUTER NOUNS ENDING IN (PIE) $*-os$. A Proto-Indo-European noun such as $*\acute{e}kwos$ 'horse' would have shown the array of nominative and accusative, singular and plural forms given in Table 41. The phonetically expected Proto-Tocharian forms are given in square brackets.

TABLE 41
DECLENSION OF THE NON-NEUTER
THEMATIC NOUN IN PIE

	SINGULAR		PLURAL	
Nom.	$\acute{e}kwos$	[$\acute{ä}kwe$]	$\acute{e}kwoy$ ¹⁰	[$\acute{ä}kwäy$]
Acc.	$\acute{e}kwom$	[$\acute{ä}kwä(n)$]	$\acute{e}kwons$	[$\acute{ä}kwens$]

This schema represents those thematic nouns which were not stressed on the final, suffixal, syllable. Those that were so stressed would have shown different accusative singulars and nominative plurals, namely $*-e(n)$ and $*-ey$ respectively. With the retraction of final stress to the penultimate syllable (no Proto-Tocharian form except monosyllabic ones were end-stressed), the two subtypes were no longer predictably distinguished, and they were merged. The accusative singular of the end-stressed nouns survived, but in the plural it was the nominative of those nouns which were not end-stressed which we find reflected in Tocharian (B) nouns.¹¹

Tocharian B shows the Proto-Tocharian state of affairs here as elsewhere. Tocharian A has rebuilt the nominative plural to $-añ$ on the model of the n -stems, where the nominative plural is identical to the accusative except for the substitution of $-ñ$ for $-s$ (Table 42).

TABLE 42
THEMATIC NOUNS IN TOCHARIAN A AND B

	Singular		Plural	
Nom.	<i>yakwe</i>	[A <i>yuk</i>]	<i>yakwi</i>	[A <i>yukañ</i>]
Acc.	<i>yakwe</i>	[A <i>yuk</i>]	<i>yakwem</i>	[A <i>yukas</i>]

5.22 NEUTER NOUNS IN (PIE) $*-om$. In late Proto-Indo-European the nominative-accusative singular of the thematic neuter ended in $*-om$, the nominative-accusative plural in $*-\bar{a}$ (earlier $*-eA$). When unstressed the singular ending would have given Proto-Tocharian $*-\bar{a}(n)$ [AB $-\emptyset$]. If stressed it would have given Proto-Tocharian $*-e(n)$ [A $-\emptyset$, B $-e$]. The stressed subvariety is to be seen in a few isolated lexical items, most noticeably in B *kante* [A *kānt*] 'hundred' from PIE $*\acute{k}mtóm$, but such words no longer show the expected plural in $-\bar{a}$. For B *kante* we find the plural *kāntenma*, for A *kānt* we have *kāntant(u)*. Only those neuters not end-stressed remain recognizably thematic and then, because final $-\bar{a}$ is normally lost in Tocharian A, usually only in Tocharian B. We have, for example, B *piku* 'year', pl. *pikwala* (/pikwāl/ and /pikwālā/ respectively) and A *pukāl*, pl. *puklā*. Because the unstressed (PIE) $*-om$ of the singular eventually fell together with the zero-endings of certain other neuter classes and because the plural $*-\bar{a}$ was extended to many non-thematic neuters even in late Proto-Indo-European, the class as a whole

has attracted many nouns originally of other types, e.g., in Tocharian B *yasar*, *ysāra* 'blood(s)' (PIE *EesAōr) or *puwar*, *pwāra* 'fire(s)' (PIE *puAōr [<*p(e)Awōr]). By another analogy, Tocharian A shows both of these as neuter *n*-stems, i.e., *ysār*, *ysārām* and *por*, *porām*.¹²

5.23 NON-NEUTER NOUNS ENDING IN (PIE) *-ā- (EARLIER *-eA-). Proto-Indo-European nouns in *-ā (PIE *-eA), typically feminine, were in origin identical with the thematic neuter plurals which also ended in *-ā (PIE *-eA), both being collectives semantically. In addition to forming collectives and abstracts, from a very early time this stem formative had become the feminine counterpart to masculine and neuter *o*-stems. At first this relationship was only derivational, but later it became an inflectional one, particularly in the *o*-stem adjective. In some Indo-European groups this long-standing association has led to a fair amount of mutual influence between *ā*- and *o*-stems, but this has not happened to any degree in Tocharian. The reconstructed Proto-Indo-European declension for this type of noun, along with its reconstructed Proto-Tocharian descendant, are given in Table 43 (Proto-Tocharian forms are again given in square brackets). The word used to exemplify this class is PIE *gwenā 'woman' (PTch *śānā 'wife').

TABLE 43
DECLENSION OF PROTO-INDO-EUROPEAN *ā*-STEMS

	Singular		Plural	
Nom.	<i>gwenā</i>	[śānā]	<i>gwenās</i>	[śānā]
Acc.	<i>gwenām</i>	[śānō(n)] ¹³	<i>gwenās</i>	[śānā]

The identity of the plural (both nominative and accusative) with the nominative singular was evidently felt as a difficulty but, since the solutions to this "difficulty" adopted by Tocharian B differ from those seen in Tocharian A, the reconstruction of this paradigm must have taken place after the break-up of Proto-Tocharian unity.

In Tocharian A the normal solution was to extend the nominative singular ending -ā to the accusative singular. (This is hard to demonstrate in nouns where final vowels were ultimately lost, but one can see it in adjectives where the new accusative singular was protected by the addition of *-nā, e.g., *āštāryām* 'pure' or *parnontsām*

'splendid'.) The new accusative singular in -ā would have overlapped with the accusative -ā (from *-ā[nā]) of *ān*-stems and, as a result, the *ā*-stem nouns and adjectives adopted the plural endings of the *ān*-stems, e.g., *lāntsañ*, *lāntsaṃ* 'queens'.¹⁴ This same development is to be seen in the few masculine *ā*-stem nouns in Tocharian B, e.g., *kaṣenta* 'murderer' (on the acc. sg. *kaṣentai*, see below), (nom. pl.) *kausentañ*, and by those epicene adjectives which show only -ā, e.g., (masc./fem. nom. sg.) *aknātsa* 'foolish' (*aknātsa*, *aknātsañ*, *aknātsaṃ*) or -rita 'seeking, searching'.¹⁵

In Tocharian B the situation is more varied. Besides nouns showing the same development we find in Tocharian A, there are at least two other possibilities. The most conservative solution to the problem presented by the regular phonological development of *ā*-stems in Tocharian was to add the plural morpheme -nā, originally abstracted from neuter *n*-stems (see section 5.311), either the undercharacterized plural in *-ā (PIE *-ās), i.e., as in B *-ānā* (compare also B *akrūna* 'tears' from PIE *(d)akruA + -nā) or, as in the case of PIE *gwenā, to the accusative singular in -o, i.e., *śnora* 'wives'. But this situation was by no means a common one. Such nouns in Tocharian B *śana*, *lāntsa*, and *śarya* 'beloved' and the related adjective formations *alyāk* (acc. sg. *alyok*) 'other' (fem.) and *son* 'one' (fem.) completely exhaust the list of nouns and adjectives which preserve the expected accusative singular.¹⁶ More common in Tocharian B was the creation of a plural -ānā beside an accusative singular in -ai (<*-ā-[-ā[nā]] < [late] PIE *-ā-Eenm). Thus we have *mñcuška* 'princess' with an accusative singular *mñcuškai* and nom./acc. plural *mñcuškāna*.

The difference between the Tocharian A restructuring of the paradigm and that of Tocharian B can be summarized by looking at the paradigm shown in Table 44 for 'nun' in both languages (B *āsiya*, *āsi* from Prakrit *āsyā*).¹⁷

TABLE 44
"REGULAR" *ā*-STEMS IN TOCHARIAN A AND B

	SINGULAR		PLURAL	
Nom.	<i>āsiya</i>	[A <i>āsi</i>]	<i>āsiyana</i>	[A <i>āsyān</i> ~ <i>āśśāñ</i>]
Acc.	<i>āsiyai</i>	[A <i>āsi</i>]	<i>āsiyana</i>	[A <i>āsyās</i> ~ <i>āśśās</i>]

5.24 THE DECLENSION OF (PIE) THEMATIC ADJECTIVES IN TOCHARIAN. Most of the complexities of declension of this group of adjectives lie in the interchange of palatalized and non-palatalized stem final consonants, and these complexities can be laid squarely to the conflation of "strong" and "weak" adjectives (see section 5.1). Their discussion may be put off until later (section 5.32). Here we need discuss only the actual case/number desinences. The usual Tocharian endings are tabulated in Table 45.

TABLE 45
ENDINGS OF THE THEMATIC ADJECTIVES IN
TOCHARIAN A AND B¹⁸

	MASCULINE	NEUTER	FEMININE
Nom. Sg.	-e [A -Ø]	-e [A -Ø]	-(y)ā [A -(i)]
Acc. Sg.	-e [A -ām]	-e [A -ām]	-(y)ai [A - (y)ām]
Nom. Pl.	-i [A -e]	-ānā/-onā [A -am]	-ānā/-onā [A -am]
Acc. Pl.	-em [A -es]	-ānā/-onā [A -am]	-ānā/-onā [A -am]

In general, these endings parallel the corresponding nominal ones closely. Noteworthy, however, are the nominative and accusative plural masculine in Tocharian A. The nominative plural in A must reflect PIE *-oy when stressed, while the B equivalent, -i, reflects the unstressed PIE *-oy. The Tocharian A accusative plural is the direct phonetic outcome of PTch *-ens, while the -as of the thematic nouns has its vowel analogically after the old singular forms.

5.25 PIE *yo-STEM ADJECTIVES AND NOUNS. The variety of late Proto-Indo-European which was the ancestor of Tocharian evidently showed a predilection for substituting *-yo/ā- for earlier *-o/ā-. In nouns we might note the correspondence of Tocharian B *wāstarye* 'liver' (?) and the Hesychian *hústros* 'gaster' of B *nakātsa* 'fool(ish)' and Greek *agnōtos* 'unknown' (note that Tocharian shows an active meaning for the PIE participial *-to-, whereas Greek shows the more usual passive meaning). Particularly productive in Tocharian are adjectives of "appurtenance" stemming from PIE *-syo-

(possibly *-syo-) and *-nyo- (Tocharian B -šše and -ññe) and adjectives of possession (i.e., 'having the property of or being in possession of') from PIE *-tyo- (Tocharian B -tstse) [: English 'level-headed' from *-to-].

5.3 PIE *n*-STEM NOUNS AND ADJECTIVES. As we have already noted (see section 5.1), PIE *n*-stems have played a dramatic role in the history of Tocharian—both as nouns and as adjectives. As one would expect, given their prominence in late Proto-Indo-European and Proto-Tocharian, they have left many reflexes in both Tocharian A and B.

5.31 PIE *n*-STEM NOUNS. The two Tocharian languages show evidence of at least five different types of PIE *n*-stems: (1) acrostatic neuters, (2) non-neuters with a nominative singular in *-ōn, accusative singular in *-enm (a sub-variety of the hysterokinetics), (3) non-neuters with a nominative singular in *-ōn, accusative singular in *-onm (holokinetic), (4) non-neuters with the *-ōn- extended throughout the paradigm, and (5) non-neuters with a nominative singular in *-ēn, accusative singular in *-enm (hysterokinetic).

5.311 NEUTERS. Only one type of neuter appears in Tocharian. This type, the acrostatic, shows the expected zero-grade of the stem formative throughout the paradigm. In Proto-Indo-European the singular (nominative and accusative) ended in *-n, which gave PTch *-ā(n), while the plural ended in Proto-Indo-European and Proto-Tocharian *-nā. A typical example of this type is provided by B *ñe* 'name', pl. *ñemna*. Evidence for other Proto-Indo-European groups indicates that the root vowel in this word was *-o-, i.e., that it was an acrostatic noun of Type B. Tocharian shows an analogical shift to Type A with a long *-ē- in the nominative/accusative.

The plural of this type has enjoyed independent productivity in both languages. It came to form plurals, usually feminine, to nouns whose own inherited plurals were no longer sufficiently characteristic because of phonetic attrition. We have already seen the creation of new plurals or the reinforcement of old ones in this way for ā-stem nouns (see section 5.23). The same is true for Tocharian B *akrū* 'tears' (PIE *(d)akruA + -nā) or *ersna* 'form' (pl. tant.) ([as if] from PIE *oresA + -nā). For this last word one should compare the old singular, now a lexically distinct item, *ere* 'appearance' (PIE *oros). As a plural ending to reinforce older plurals, Tocharian A -(ā)m (PTch

**nā*) is not as popular a choice as it is in Tocharian B, but it does occur in this capacity with moderate frequency, e.g., *porām* 'fires'.

Particularly popular in Tocharian B is the "double" suffix *-nmā* (from earlier **mnā* by metathesis) originally from neuters in PIE **-mn*, for instance, *cokanma* 'lamps' (sg. *cok*) or *wakanma* 'distinctions' (sg. *wāk*). In the case of this last example Tocharian B has an analogical singular compared to the more original Tocharian A *wākām*, while the Tocharian B plural, *wakanma*, is original and it is the Tocharian A plural, *wākmant*, which has been rebuilt.

5.312 NON-NEUTERS WITH A NOMINATIVE IN **-ōn*, ACCUSATIVE IN **-enm*. The nominative singular, PIE **-ōn*, would have given PTch **-ō(n)*, while the accusative singular would have given **-jānā(n)*. The only noun faithfully to reflect this archaic pattern is Tocharian A *śom* 'young man' [B *śaumo* 'person'], acc. *śomām* [B *śaumom*]. Tocharian B has generalized the *-o-*. The Proto-Tocharian shape would have been nom. **śāwmo*, acc. *śāwmānā(n)*. There are no plural forms attested for this word in Tocharian A, while in Tocharian B we find the curious *śāmna* (PTch **śāwmnā?*), which must be the result of rebuilding.

5.313 NON-NEUTERS WITH A NOMINATIVE IN **-ōn*, ACCUSATIVE IN **-onm*. Again the nominative singular would be Proto-Tocharian **-ō(n)*, while the accusative singular would give PTch **-enā(n)*. This pattern too is represented, but by a single word: Tocharian B *ku* 'dog' [A *ku*], acc. *kweṃ* [A *kom*]. In this case the nominative singular, PTch **kū*, shows the special development of PIE **-o-* when preceded in a final syllable by **w*. The plural is not attested in either language (B *kweñ**, A *koñ**?).

5.314 NON-NEUTERS WITH A NOMINATIVE IN **-ōn*, ACCUSATIVE IN **-ōnm*. The Proto-Indo-European paradigm for this group would have been as shown in Table 46 (Proto-Tocharian reflexes in square brackets).

This subvariety is well represented in both languages. As an example we can cite Tocharian B *kantwo* [A *kāntu*] 'tongue', acc. *kantwa* [A *kāntu*], nom. pl. *kāntwāñ** (cf. *onkolmañ* 'elephants') [A *kāntwāñ*], acc. pl. *kāntwāp* [A *kāntwās*]. In this particular noun, the expected nominative singular in **-ū* was replaced, in Proto-Tocharian times, by the analogical **-wo*. The accusative singular lost the in-

TABLE 46
NON-NEUTERS WITH A NOMINATIVE IN **-ōn*,
ACCUSATIVE IN **-ōnm*

	SINGULAR		PLURAL	
Nom.	<i>-on</i>	[<i>-ō</i>]	<i>-ōnes</i>	[<i>-ānjā</i>]
Acc.	<i>-ōnm</i>	[<i>-ānā(n)</i>]	<i>-ōn(n)s</i>	[<i>-āns?</i>]

herited **-nā(n)* once that had been interpreted as a marker of rational beings only.

5.315 NON-NEUTERS WITH A NOMINATIVE IN **-ēn*, ACCUSATIVE IN **-enm*. The Proto-Indo-European paradigm for this group would have been as given in Table 47 (again, the Proto-Tocharian reflexes are in square brackets):

TABLE 47
NON-NEUTERS WITH A NOMINATIVE IN **-ēn*,
ACCUSATIVE IN **-enm*

	SINGULAR		PLURAL	
Nom.	<i>-ēn</i>	[<i>-iē(n)</i>]	<i>-enes</i>	[<i>-jānjā</i>]
Acc.	<i>-enm</i>	[<i>-jānā(n)</i>]	<i>-ns, -nns</i>	[<i>-āns</i>]

By itself this group is poorly represented in Tocharian. It can be reconstructed in the case of B *aulāre* 'companion' (nom. pl. *aulāre* and A *olar* 'id.' (nom. pl. *olariñ*). Tocharian B has generalized the **-i-* originally proper only to the nominative singular, but the PIE **-e-* can still be seen in the Tocharian A plural *olariñ* (<**olarāñ*). Otherwise words originally in this group (e.g., *meñe* 'moon, month' [: Goth *mēna* 'moon']) fell together with the original hysterokinetic *i*-stems (e.g., *āśce* 'head' [: Lithuanian *akstis* 'spikelet']). Of the forms of the nominative and accusative, only the nominative plural would have differed in the two groups. Both original *i*- and *n*-stems show PTch **-jāyā* [AB *-i*] from PIE **-eyes*. See section 5.51.

Where we find this group abundantly represented in Tocharian is when it acts as the "weak" declension extender of *ā-*, *i-*, and *n-* stems. It is perhaps clearest where it extends *i*-stems, e.g., B *ri* [A *rī*] 'city', acc. *ri* [A *rī*], nom. pl. *riñ* [A *riñ*], acc. pl. *rim** [A *ris*] from

PIE **wriEēn*, **wriEenm*, **wriEenes*, and **wriHn(p)s* respectively.¹⁹ Extending *u*-stems, the result would be B *-iye*, *-i*, *-iñ*, and *-om* (<**ūm* < **uEn(p)s*). Usually the vowel *-i-* was extended to the accusative plural, with the result that *-i-Een-* and *-u-Een-* fell together, except that *-u-Een-* does not palatalize the preceding consonant and does umlaut a preceding vowel, while *-i-Een-* does the opposite (B *proskiye* 'fear' but *yšiye* 'night'). Less usually we have the vowel of the accusative plural extended to the nominative, e.g., B *prāri* 'finger' (nom./acc. sg.) but *praroñ* (nom. pl.), *prarom* (acc. pl.) (there are no examples in Tocharian A). The type in *-i-* was productive in Proto-Tocharian and could be added to other stems, e.g., to PTch **kljāmā* 'direction' (<**klīm* [cf. Greek *klíma* 'id.']) we get **kljāmā-je*, giving B *kālymiye* or **pejā* 'foot' (< dual **pode*) we get **pejā-je* (B *paiyye*, A *pe*).

Late PIE *-ā-Eēn-*, *-ā-Eenm*, *-ā-Eenes*, *-āEn(n)s* should have given PTch *-āje* (or *-ojo?*), *-ājā*, *-ājānjā*, *-āns*. The identity of the accusative plural with that of the *ō/ān*-stems allowed for much interpenetration of the two types, with the result that an old *ōn*-stem like B *okso* has a paradigm *okso*, *oksai*, *oksaiñ**, *oksaim* (see section 5.23). One should note that nowhere does the expected nominative singular survive in Tocharian B; it is always replaced by *-o* or *-iye*. We should also note that Tocharian A extends this type (with A *-e-*), at the expense of the type in *-i-*, e.g., A *kālyme* 'direction' rather than **kālymi*.

5.32 *N-STEM ADJECTIVES*. When we turn our attention to *n*-stem adjectives in Tocharian, we find that, aside from small, residual examples, there is abundant evidence for two formally productive types. One of them corresponds to our second nominal class (i.e., nom. sg. **ōn*, oblique **en-* while the other is secondarily derived from thematic and *ā*-stem adjectives, i.e., **-e-Een-* and **-ā-Een-*.

The evidence for the first group of adjectives is more explicit. Declined in this fashion are several adjectives in Tocharian B and one or two in Tocharian A based on a PIE **-mōn/-men-*, e.g., Tocharian B *klyomo* [A *klyom*] 'noble'. In Tocharian B the reflex of the **-ō-* of the nominative singular has been extended throughout the masculine paradigm. Thus we find *klyomo*, *klyomom* (also *klyomont*), *klyomoñ*, *klyomom*. In Tocharian A, on the other hand, though the declension as a whole has been assimilated to that of the *nt*-stems (compare the B acc. sg. *klyomont* and see section 5.625), we see traces of PIE **-e-* in the acc. sg. *klyomānt*, acc. pl. *klyomāñcās** (cf.

sol-soluneyumāncās 'life-living'). The feminine in both languages also built on **-men-*. Tocharian B adds **-yā-* (no doubt the old situation), while Tocharian A adds **-ā-*, e.g., B *klyomñā* [A *klyomiñ*].²⁰

Our second group of adjectives, the "post-thematics," were the productive "weak" declension in Proto-Tocharian. They are widely attested, but everywhere they have become conflated with the thematic, i.e., "strong," counterparts (see section 5.1). In both the masculine and feminine singular the conflation results in Tocharian B in the preservation of the "strong" nominative singular but the "weak" accusative singular. The situation is essentially the same in Tocharian A, though in that language the "weak" accusative forms have been rebuilt so as to have the vowel of the corresponding strong forms.²¹ However, the expected accusative singular "weak" form of the feminine does appear in Tocharian A relegated to the genitive singular (acc. *āštāryām*, gen. *āštārye** 'pure' (cf. *rtārye* 'real' (Table 48).

TABLE 48
"POST-THEMATIC" ADJECTIVES

	PROTO-TOCHARIAN		TOCH. A	TOCH. B
	"STRONG"	"WEAK"		
M. nom.	<i>*-Ce</i> [PIE <i>*-Cos</i>]	<i>*-Cjē(n)</i> [PIE <i>*-Cēn</i>]	-C	-Ce
M. acc.	<i>*-Cā(n)</i> [PIE <i>*-Com</i>]	<i>*-Cjānā(n)</i> [PIE <i>*-Cenm</i>]	-C'ām	-C'em ²²
F. nom.	<i>*-Cā</i> [PIE <i>*-Cā</i>]	?	-C	-Ca
F. acc.	<i>*-o/ā</i> [PIE <i>*-Cām</i>]	<i>*-ājā[nā]</i>	-Cām	-Cai

In the plural the situation is a bit more complex. In both languages the usual development in the masculine is to extend the palatalization of the "weak" stem throughout the plural paradigm through the actual endings as those of the "strong" stem. Thus in Tocharian A we have (nom.) *-C'e*, (acc.) *-C'es*, while in B we have

(nom.) -C'i, (acc.) -C'em. In the Tocharian B reflexes of many PIE *ro*-stems, however, we find only the expected descendants of the "weak" declension, i.e., (nom.) -eñ, (acc.) -enām (e.g., [sg.] *lāre* 'dear', *lareñ*, [pl.] *lareñ*, *larenām*). The feminine, in all cases, shows PTch -onā (B -ona, A -am), originally the "strong" ending.²³

5.33 ANALOGICAL EXTENSION OF MORPHOLOGICAL PALATALIZATION. The distribution of palatalization of the stem-final consonant that resulted from the conflation of the two declensions was itself to have wide extension. Thus we would expect the acc. sg. masc. of the preterite participle in Tocharian B, where the participle has not been conflated with the *nt*-stems, to end in -s (from PIE **-wosm*). What we find, however, is -š, and it seems reasonable to suppose that the expected **-s* has been made over into -š because of the Tocharian speaker's feeling that the accusative singular is marked, among other things, by palatalization. Even more obvious, perhaps, is the remodeling to be seen in the word for 'one' in Tocharian A. An original paradigm PIE **sēm(s)*, acc. **sem̃* was rebuilt, on the basis of a thematic derivative, to **sēm(s)*, acc. **som(H)om*, nom. pl. **som(H)oy*, acc. **som(H)ons*.²⁴ At some later date in Proto-Tocharian, the palatalization that was proper to the nominative singular was extended to all forms of the masculine. We find therefore in Tocharian B: nom. sg. *še*, acc. sg. *šeme*, nom. pl. *šemi*, acc. pl. *šemem̃*. In Tocharian A, on the other hand, the nominative singular was rebuilt without palatalization (i.e., *sas*) because of the speaker's feeling that palatalization was not appropriate in the nominative singular. (The inherited *ša-* exists residually in such expressions as *šāk šapi* 'eleven'. The most notable extension of this pattern of palatalization is to be seen, however, in the demonstrative pronoun in both languages. To use Tocharian B as our example we have: sg. *se* (acc. *ce*), pl. *cey* (acc. *cem̃*) from PIE **so* (acc. **tom*), pl. **toy* (acc. **tons*), instead of sg. *se* (acc. **te*), pl. **tey* (acc. **tem̃*).²⁵

Later, in the separate history of Tocharian A, *n*-stem byforms were to enjoy considerable popularity. Thus fairly early, before the loss of final vowels, came the extension of *n*-stem forms to the accusative singular of the feminine (i.e., -C'ām) and later, after the loss of final vowels, to all forms, at least optionally, of *yo*-stem adjectives save the masculine nominative singular (cf. the plethora of alternatives for the feminine accusative singular of *yo*-stems:

-ši, -šim̃, -šinām̃, -šyām̃, -ššām̃ – in -šinām̃ we even have the added twice).

5.4 PROTO-INDO-EUROPEAN *r*-STEMS. Aside from the stems, the only class of nouns ending in a PIE resonant to retain integrity as a class in Proto-Tocharian were those *r*-stem nouns designating various kin relationships, i.e., the words for 'father', 'mother', 'brother', 'sister', and 'daughter'. The most likely Proto-Indo-European paradigm for **pAtēr* 'father' is given in Table 49.

TABLE 49
PROTO-INDO-EUROPEAN PARADIGM
OF **pAtēr*

	SINGULAR	PLURAL
Nom.	<i>pAtēr</i>	<i>pAteres</i>
Acc.	<i>pAterm̃</i>	<i>pAtrns</i>

The major structural difference between this paradigm and the one which we can reconstruct for Proto-Tocharian is the generalization in the latter of the stem **pAtr-* at the expense of **pAter-*. The most direct prototypes of the actual Tocharian forms for the accusative singular would have been **pAtrm̃*. Exactly the same restructuring is seen in Latin *patrem*. With this restructuring and with the generalization of the open syllable outcome of PIE **-A-* (from the nominative singular), we would expect the paradigm for 'father' in Proto-Tocharian to be as shown in Table 50.

TABLE 50
PROTO-TOCHARIAN PARADIGM OF
**pAtēr*

	SINGULAR	PLURAL
Nom.	<i>pātjēr</i>	<i>pātjārjā</i>
Acc.	<i>pātrā(n)</i>	<i>pātrāns</i>

Tocharian B shows the regular phonological reflexes of the reconstructed Proto-Tocharian singular forms, nom. *pācer*, acc. *pātār*. Tocharian A has extended the nominative singular (*pācar*) to the accusative also. The Tocharian A plural forms are based on

TABLE 53
PROTEROKINETIC PIE *i*-STEMS

	SINGULAR	PLURAL
Nom.	<i>loksis</i> [B <i>laks</i>]	<i>lokseyes</i> [B <i>läksi</i>]
Acc.	<i>loksim</i> [B <i>laks</i>]	<i>loksins</i> [B <i>laksäm</i>]

example, whose etymological antecedents are clear, is Tocharian B *ost* 'house' [A *wašt*], plural *ostwa* [A *waštu*], from PIE **wostu* and **wostweA* respectively. This word, of course, represents an acrostatic noun of Type B. An example of a Type A acrostatic is seen in AB *yok* '(body-)hair', B plural *yākwa* 'fleece' from PIE **dēku*/**dēkweA*.²⁸ Beside the phonologically expected plural in *-u*, Tocharian A also shows *-wā*, with the final *-ā* restored from those cases where it was protected by an enclitic "case" ending, and *-unt*, where the *-u* has been extended by the very productive plural morpheme *-nt*. Doublets are not unknown, e.g., *kursärwā* and *kurtsru* 'miles' (sg. *kursär*). An earlier Proto-Indo-European plural ending, **uA*, is preserved in Tocharian B *akrūna* 'tears' and A *akrunt* 'id.', where the Proto-Tocharian plural **ākrū* (PIE **(d)akruA*) has undergone independent renewal in both languages.

The one non-neuter that most clearly shows its etymological origin as an *u*-stem is Tocharian B *soy* 'son' [A *se*]. The Tocharian A genitive singular *seyo* [B *seyi*, with *-i* replacing the expected **ew*] strongly suggests that late Proto-Indo-European **suyus* underwent dissimilation to **soyus*. This dissimilation was similar to, but in the opposite direction from, that dissimilation which gave Greek *huiós* beside *huiús* 'son'. The development of the PIE singular is quite straightforward (Table 54).

For the plural we would expect a PIE **soyewes* (**suyewes*) in the nominative and **soyuns* (**suyuns*) in the accusative. The nominative plural should have produced Tocharian A **seyu* (PTch **seyjāwjä*), and it is this that probably lies behind the actually occurring nominative plural *sewāñ* (from **seyu* + *-āñ*). The attested accusative plural, *sewās*, is built on the model of the nominative. In Tocharian B, on the other hand, the original plural has been replaced by the form *sāsuwa*, which Winter (1985) takes as an old past participle to PIE **su(H)-* 'bear, give birth to'.

TABLE 54
DEVELOPMENT OF PIE **soyús* (**suyús*)

	PIE	PROTO-TOCH.	TOCH. A	TOCH. B
Nom.	<i>soyus</i>	<i>soyā</i>	<i>se</i>	<i>soy</i>
Acc.	<i>soyum</i>	<i>soyā(n)</i>	<i>se</i>	<i>soy</i>
Gen.	<i>soyows</i>	<i>seyew</i>	<i>seyo</i>	[<i>seyi</i>]

Finally we should look at the single *u*-stem adjective which survives as such in Tocharian B, *colye* 'wild, fierce'. Only a partial paradigm is attested, but from what we have it is clear that we have basically the same "mixed" hysterokinetic paradigm seen in Tocharian B *pācer* or *āsce*. The presumed Proto-Indo-European paradigm (and its Tocharian B descendant) is presented in Table 55.

TABLE 55
PIE *u*-STEM ADJECTIVES

	SINGULAR	PLURAL
Nom.	<i>dhwēslē(w)s</i> [<i>colye</i>] ²⁹	<i>dhwēslēwes</i> [<i>colyi</i>]
Acc.	<i>dhwēslum</i> [<i>col</i>]	<i>dhwēsluns</i> [<i>colām</i>]

5.6 PROTO-INDO-EUROPEAN OBSTRUENT STEMS. In a historical description of those stems of Proto-Indo-European that end in some sort of an obstruent (and monosyllabic roots ending in a resonant, e.g., **gʷow-* 'cow'), they rather naturally fall into two groups. On the one hand, we have those that end in **-s* or **-nt*, which tend to interact with one another because of their common use as builders of verbal participles. On the other, we have those that end in something other than **-s* and **-nt*. Because this second group ultimately came to share many similarities with the *i*-stems already discussed (section 5.51), we will take it up first.

5.61 PROTO-INDO-EUROPEAN OBSTRUENT STEMS OTHER THAN THOSE ENDING IN **-s* AND **-nt*. A Proto-Indo-European noun ending in an obstruent might be expected to have shown

following paradigm. The example shown in Table 56 is a presumed PIE **leghs* 'thief' (literally, 'he who lies in wait').

TABLE 56
PIE NOUNS ENDING IN AN OBSTRUENT³⁰

	SINGULAR	PLURAL
Nom.	<i>leghs</i> [lġāk]	<i>leghes</i> [lġākjā]
Acc.	<i>legħm</i> [lġākā(n)]	<i>legħns</i> [lġākāns]

Except for the replacement of PTch **lġākjā* by **lġākjāyġā*, modeled after the *i*-stems (cf. the similar substitution of **jāyġā* for **jānjā*, section 5.315), this paradigm survived unchanged in both languages. We find, for instance, Tocharian B nom. sg. *lyak* [A *lyāk*], acc. sg. *lykam* [A *lykām**]—with the **-nā(n)* marking rational beings, nom. pl. AB *lyśi* acc. pl. B *lykam* ~ *lykām* [A *lykās*]. Nouns of this group often showed ablaut in Proto-Indo-European, most strikingly in the lengthened grade which was often seen in the nominative singular, e.g., Latin *pēs* 'foot', acc. sg. *pedem*. No traces of this ablaut remain in Tocharian except possibly in the word for 'hand'. Tocharian B *ṣar* appears to demand a PIE prototype **ġheser-*, whereas Tocharian A *tsar* must come from PIE **ġhesor-* or **ġhesēr-*.³¹

5.62 PROTO-INDO-EUROPEAN STEMS IN **-s* AND **-nt*. These stem types are attested in Tocharian in two ways: (1) as neuter nouns (i.e., those with PIE nom. sg. **-os* or **-ont*), and (2) as adjectives. In this latter class are included PIE perfect participles in **-wos-*, aorist participles in **-ont-*, PIE adjectives in **-mont-*, and PIE adjectives in **-went-*. Neuter nouns of these two types had PIE nominative/accusative singulars in **-os* and **-ont*. The corresponding plurals were **-es(e)A* and **-onteA*. In Proto-Tocharian the two singulars would have become identical as PTch **-e*. It appears that this identity in the singular engendered a similar identity in the plural through the generalization of PTch **-entā*.

The original *s*-stem neuter is to be seen most clearly in B *lwāke* 'pot', plural *lwāksa*. We can also find it, slightly obscured, in Tocharian B *ersna* 'form' (plurale tantum), which reflects PIE **oresA* + PTch **-nā*. The old singular corresponding to B *ersna* is B *ere* 'appearance, color'. Plurals in *-nta* [A *-nt* or with *-u* from **-wā* added

-ntu] have spread widely beyond their original "home" in the *s*- and *nt*-stems in both languages (see Van Windekens, 1979:200-210).

A small group of holokinetic *s*-stems also survives in Tocharian B with an extension of the **-ōs-* originally proper to the nominative/accusative singular. Thus we find Tocharian B *piltā* 'leaf', plural *piltāsa* (and dual *piltāṣ*). Similarly inflected is *luwo* (acc. sg. *luw* 'animal', plural *lwāsa*).

5.621 PROTO-INDO-EUROPEAN *s*-STEM ADJECTIVES. The only PIE *s*-stem adjectives to be preserved in Tocharian are descendants of Proto-Indo-European perfect participles which have become Tocharian preterite participles, e.g., Tocharian B '(having) come out' from PIE **(E)ludhwōs* (Table 57).

TABLE 57
PROTO-INDO-EUROPEAN PERFECT PARTICIPLES

	MASCULINE	NEUTER	FEMININE
SINGULAR Nom.	<i>Eludhwōs</i>	<i>Eludhus</i>	<i>Eludhusā</i> ³²
Acc.	<i>Eludhwosm</i>	<i>Eludhus</i>	<i>Eludhusām</i>
PLURAL Nom.	<i>Eludhwoses</i>	<i>Eludhusā</i>	<i>Eludhusās</i>
Acc.	<i>Eludhusns</i>	<i>Eludhusā</i>	<i>Eludhusās</i>

The first major phonological change to affect this paradigm was loss of final **-s*. This loss would result in the declensional pattern of these participles shown in Table 58.

TABLE 58
PRE-TOCHARIAN PERFECT PARTICIPLES

	MASCULINE	NEUTER	FEMININE
SINGULAR Nom.	<i>ludhwō</i>	<i>ludhu</i>	<i>ludhusā</i>
Acc.	<i>ludhwosm</i>	<i>ludhu</i>	<i>ludhusā</i>
PLURAL Nom.	<i>ludhwose</i>	<i>ludhusā</i>	<i>ludhusā</i>
Acc.	<i>ludhusns</i>	<i>ludhusā</i>	<i>ludhusā</i>

After the loss of final **-s*, the neuter singular looked exactly like the neuter singular of an *u*-stem (see section 5.52) and, as a result

new neuter plural in **-wā* (i.e., **ludhwā*) was created. With the loss of the neuter as an inflectional category in Proto-Tocharian, the combined neuter-feminine plural was signalled by what had been the old neuter plural, **ludhwā*.³³

Once the various phonological changes which affected Proto-Tocharian vowels had taken place, we would be left with the paradigm given in Table 59.

TABLE 59
EARLY PROTO-TOCHARIAN
PRETERITE PARTICIPLES

		MASCULINE	FEMININE
SINGULAR	Nom.	<i>lätwu</i>	<i>lätäsā</i>
	Acc.	<i>lätwesä(n)</i>	<i>lätäsō</i>
PLURAL	Nom.	<i>lätwesjä</i>	<i>lätwā</i>
	Acc.	<i>lätäsāns</i>	<i>lätwā</i>

Crucial to the further history of this paradigm was the insertion of an epenthetic **-ä-* between obstruents and a following resonant (see section 3.19). This change effected the paradigm shown in Table 60:

TABLE 60
LATER PROTO-TOCHARIAN
PRETERITE PARTICIPLES

		MASCULINE	FEMININE
SINGULAR	Nom.	<i>lätāwu</i>	<i>lätāsā</i>
	Acc.	<i>lätāwesä(n)</i>	<i>lätāsō</i>
PLURAL	Nom.	<i>lätāwesjä</i>	<i>lätāwā</i>
	Acc.	<i>lätāsāns</i>	<i>lätāwā</i>

The speaker of late Proto-Tocharian was thus apparently faced with a participial stem ending in **-ä-* to which one added **-wu* to form the masculine nominative singular, **-wes-* for the other "strong" cases and **-s-* for the "weak" cases. By analogy all this meant that a participial stem ending in **-ä-*, derived from the multifarious *ä-* preterites, would have a nominative singular in **-ä-wu* (e.g., Tocharian B *papaikau* '[having] painted') and a masculine accusative plural in

**-ä-s-* (e.g., B *papaikašām* — for the palatalization of the stem-final see section 5.33). Outside of some archaic participles in Tocharian B (e.g., *ltu* '[having] come out'), the **-wes-* was replaced by **-s-* while in Class Ia **-wes-* was extended to the masculine accusative plural. For reasons that remain obscure to me, the vowel of the masculine nominative singular was extended to the entire feminine. Tocharian B, e.g., *ltusa* (sg.) and *ltuwa* (pl.), or *papaikau* (sg.) and *papaikauwa* (pl.). In Tocharian A this extension was taken further, that all forms of the paradigm came to show the same vowel as the masculine nominative singular (Table 61). (For a fuller discussion of the history of the Tocharian preterite participles, see Adams, 1981.)

5.622 PROTO-INDO-EUROPEAN ADJECTIVES IN **-went-*. A very similar set of phonological and analogical changes to what we have just seen in section 5.621 affected the paradigm of adjectives in **-wōnt ~ *-unt-*. The Proto-Indo-European paradigm of this kind of adjective, when added to a root ending in a consonant, and its late Proto-Tocharian reflex is given in Table 62.

And thus, by analogy, from an adjective stem in PTch **-e-* (F **-o-*), e.g., PTch **pālle-* (PIE **plEno-*), we get a masculine nominative singular, **pālle-w* 'full (of the moon)', and weak cases in **pālle-nt-*.

The original paradigm is best preserved in Tocharian B adjectives such as *špālu** 'excellent' ([as if] from PIE **ghebal-wōnt*), e.g., *špālu** [A *špālu*], acc. sg. *špaluwent** [A *špālunt*], nom. pl. *špaluweñc** [A *špāluš*], and acc. pl. *špaluwentām** (gen. *špaluwentām̐ts*) [A *špāluñcās*]. The same paradigm is better attested in Tocharian B *naušu*, acc. s. *naušuwent* 'earlier'.

A special case is provided (Table 63) when **-went-* is added to a stem ending in (PIE) **-s*, e.g., B *akessu* 'last' to *āke* 'end, sum' [cf. Latin *acus*, *aceris* 'needle, bodkin' or Greek *akosté* 'barley'] (V Windekens, 1979:132).

Such adjectives became an independently productive type in Tocharian B and show the expected phonological change of PIE **-sw-* to *-ss-*. The *-ss-* was extended to all forms of the paradigm including the feminine singular in *-ssuntsā-* from PIE **-suntā-* and the plural in *-ssontā* from PIE (neuter) **-suntā*. The *-ū* of the masculine nominative singular was also extended throughout the paradigm. The Tocharian B *-o* which appears in most of the paradigm is either the phonologically regular outcome of an earlier **-ū-* adjacent to a resonant or the result of analogical adjustment of the paradigm on

TABLE 61
SOME TOCHARIAN PRETERITE PARTICIPLES

	MASCULINE		FEMININE	
	TOCH. B	TOCH. A ³⁴	TOCH. B	TOCH. A
SG. Nom. Acc.	<i>Itu</i> <i>Ituwes</i>	<i>lantu</i> <i>lantunt</i> ^d	<i>Itusa</i> ⁱ <i>Itusai</i>	<i>lantus</i> <i>lantusām</i>
PL. Nom. Acc.	<i>Ituweṣ</i> <i>Ituweṣām</i> *	<i>lantuṣ</i> <i>lantuñcās</i> ^e	<i>Ituwa</i> ⁱ <i>Ituwa</i> ⁱ	<i>lantunt</i> <i>lantunt</i>
SG. Nom. Acc.	<i>papaikau</i> <i>papaikaṣ</i> ^a	<i>pāpeku</i> <i>pāpekunt</i> ^f	<i>papaikaua</i> ^k <i>papaikauai</i> *	<i>pāpekus</i> <i>pāpekusām</i> ^m
PL. Nom. Acc.	<i>papaikaṣ</i> ^b <i>papaikaṣām</i> ^c	<i>pāpekuṣ</i> ^g <i>pāpekuñcās</i> ^h	<i>papaikauwa</i> ⁱ <i>papaikauwa</i> ⁱ	<i>pāpekunt</i> <i>pāpekunt</i>

^a *wawāyaṣ* 'led', *yayātaṣ* 'capable', etc.

^b *kakārpaṣ* 'having come down', *wawāyaṣ* 'led', etc.

^c *yayātaṣām* 'capable', *kaklāyaṣām* 'fallen'.

^d *yāmunt* 'done', etc.

^e *yāmuñcās*.

^f *nām̐tsunt* 'been'.

^g *nām̐tsuṣ*.

^h *nām̐tsuñcās*.

ⁱ *ykūsa* 'gone'.

^j *ykuwa*, *snātkwa* 'permeated'.

^k *āksausa* 'awakened'.

^l *āmpauwa* 'rotted', *tsatsāpauwa* 'ground'.

^m *kaknusām* 'having come into being', *kakmusām* 'having come'.

model of preterite participles like *yāmu*, *yāmoṣ* 'made' (see section 5.623). In either case the *-ū-* of the feminine singular must be analogical and based on the morphophonetic rule, also seen in the preterite participles, that the feminine takes the masculine nominative as its stem. The Tocharian A adjectives in *-s(s)u* (Table 64) are in all probability not inherited from Proto-Tocharian but borrowed from Tocharian B (Winter, 1955).

TABLE 62
ADJECTIVES IN **-went-*

	SINGULAR	PLURAL
Nom.	<i>-C-wōnt</i> [-C-āwu]	<i>-C-wontes</i> [-C-āwentjā]
Acc.	<i>-C-wontm</i> [-C-āwentā(n)]	<i>-C-untṣ</i> [-C-āntāns]

TABLE 63
ADJECTIVES IN **-s-went-*

	SINGULAR	PLURAL
Nom.	<i>-swōnt</i> [-swū]	<i>-swontes</i> [-swentjā]
Acc.	<i>-swontm</i> [-swentā(n)]	<i>-suntṣ</i> [-sāntāns]

TABLE 64
TOCHARIAN ADJECTIVES IN *-ssu*

	MASCULINE	FEMININE
SG. Nom.	<i>-ssu</i> [A <i>-ssu</i>]	<i>-ssuntsā</i> [A <i>-ssumts</i>]
Acc.	<i>-ssont</i> [A <i>-ssunt</i>]	<i>-ssuntsai</i> [A <i>-ssuntsām</i>]
PL. Nom.	<i>-ssoñc</i> [A <i>-ssus</i>]	<i>-ssontā</i> [A <i>-ssunt</i>]
Acc.	<i>-ssontām</i> [A <i>-ssuñcās</i>]	<i>-ssontā</i> [A <i>-ssunt</i>]

5.623 PROTO-INDO-EUROPEAN AORIST PARTICIPLES IN **-ont*
Beside the perfect participles in **-wōs* ~ **-us-*, Proto-Indo-European had also aorist participles ending in **-nt-*, evidently showing the same kind of ablaut as did the corresponding perfect participles. The PIE paradigm of **trkōnt* '(having) released' and its putative Proto-Tocharian reflex is presented in Table 65.

In Tocharian A this paradigm largely subsists. As is usual in Tocharian A, the vowel proper to the nominative singular is extended

TABLE 65
PIE AORIST PARTICIPLES IN *-ōnt- ~ *-nt-

	MASCULINE	FEMININE
Nom.	<i>tṛkōnt</i> [tārko]	<i>tṛkontes</i> [tārkentjā]
Acc.	<i>tṛkontṛ</i> [tārkentā(n)]	<i>tṛkntṛs</i> [tārkāntāns]

throughout the paradigm. The nominative plural shows the adoption of the ending of the perfect participle, i.e., -s. Thus, in Tocharian A we have *tārko*, acc. sg. *tārkont**, nom. pl. *tārkoṣ**, and acc. pl. *tārkoñcās**, the latter with analogical palatalization (better attested is *kātko*, *kātkont*, *kātkoṣ*, *kātkoñcās* 'passed over'). Conversely, the old perfect participles have adopted the -nt- of the aorist in the accusative, both singular and plural (see section 5.621). Tocharian B, on the other hand, has taken the nominative singular as a new stem to which have been added the regular preterite participial endings (i.e., those of the perfect). Thus we find *tārko* (acc. sg. *tārkoṣ*, nom. pl. *tārkoṣ*, and acc. pl. *tārkoṣām**). The Tocharian B feminine, again taking the nominative singular of the masculine as its stem, shows *tārkausa**, acc. sg. *tārkausai**, nom./acc. pl. *tārkauwa** (better attested is the paradigm of *tsānko*- 'raised': nom. sg. *tsānkausa*, nom. acc. pl. *tsānkauiwa*).

Once established in participles like *tārko*-, the -o- of the oblique forms has spread to the oblique forms of the reduplicated perfect participle such as B *tetrikū* 'confused', e.g., acc. sg. and nom. pl. *tetrikōṣ*. Only the masculine nominative singular and, of course, the feminine which takes that form as its stem, retain the original -u.

5.624 PROTO-INDO-EUROPEAN PRESENT ACTIVE PARTICIPLES IN *-nt-. The Proto-Indo-European present active also had associated participles in *-nt-. These too survive in Tocharian, though many details of their history are obscure. In Tocharian B they occur only with thematic verbs or those whose stem ends in -ā-. We would expect the late Proto-Indo-European antecedents of these formations to be *-ōnt- and *-ānt- respectively. Such forms would give Tocharian B -ent- and -ānt-, and that is almost, but not quite, what we find. Before the thematic ending the root-final consonant shows palatalization if that is possible. The palatalization is presumably analogical, but the exact mechanism remains mysterious. Old participles that have become exclusively agent nouns, like B

kaṣenta 'murderer', show in addition a suffixal -ā- (see section 5.20). Newer, productive, participles show palatalization of the formative final -t-, e.g., *aśeñca* 'leading', and are inflected like regular feminine nouns in -ā-, i.e., with an accusative singular in -ai.

The palatalization of the *-t- is particularly surprising, as nothing of its like is to be seen in Tocharian A, where these present active participles end uniformly in -nt-, e.g., *āśant* 'leading'. In Tocharian we also find such participles occasionally fashioned to athematic verbs, but in those cases there is no root final palatalization preceding the participle ending -ant.

Possible glimpses of an earlier state of affairs can be seen in the Tocharian adjective *premtsa*. The word appears to be the inherited feminine singular of the active present participle from PIE **bher-* and means 'pregnant'. When used to modify a male it means, by extension, 'potent' (i.e., 'causing the female to bear'). See Schmalstieg 1975:292-295. This word is completely isolated from the productive participle, *preñca*, and thus has escaped all of the rebuilding which the regular participles were subject.

5.625 PROTO-INDO-EUROPEAN ADJECTIVES IN *-ment-. To the only other groups of nt-stems to survive in Tocharian are those in *-ment-.³⁵ Originally they must have shown a pattern of ablaut that alternated *-mōnt with *-mont- and *-mnt- in the usual fashion (see sections 5.621 and 5.622). In the masculine Tocharian B shows the generalization of the vowel originally proper to the nominative singular, e.g., *klyomo* 'noble' (PIE **klewmōnt*), acc. sg. *klyomont* rather than **klyoment* directly from PIE **klewmontṛ*. It shows exactly the same kind of generalization of the vowel of the nominative singular seen in those nouns, like Tocharian B *śaumo* 'person', which shows the PIE suffix **-mōn*. Indeed, based on the Proto-Tocharian identity of reflexes in the nominative singular, the adjectives in (PIE) **-mōn* have been remade as if they were adjectives in **-mōn*, except for the accusative singular, where the historically expected *klyomont* exists beside the competing *klyomom*.

In Tocharian A the *-nt- is better preserved, though in this language it is the weak grade **-mnt-* [A -mānt-] which is preserved and extended. As with all declensional types ending in -nt- in Tocharian A, the nominative plural ends in -ṣ on the model of the preterite participles (see also section 5.623).

The resultant paradigms in both languages are given in Table 6

TABLE 66
TOCHARIAN ADJECTIVES FROM PIE *-ment-

	TOCHARIAN B	TOCHARIAN A
SG. Nom.	<i>klyomo</i>	<i>klyom</i>
Acc.	<i>klyomont ~ klyomom</i>	<i>klyomänt</i>
PL. Nom.	<i>klyomoñ</i>	<i>klyomäṣ</i>
Acc.	<i>klyomom</i>	<i>klyomāñcäs^a</i>

^a*śol-śoluneyumāñcäs* 'live-living'.

In both languages the corresponding feminine shows complete generalization of a stem in (PIE) *-men- and not *-ment-. In Tocharian B we have a stem in -ñā- ([as if] from PIE *-nyeA-), while Tocharian A shows a stem in -nā- ([as if] from PIE *-neA-) (Table 67).

TABLE 67
TOCHARIAN FEMININES TO STEMS IN PIE
*-ment-

	TOCHARIAN B	TOCHARIAN A
SG. Nom.	<i>klyomñā</i>	<i>klyomim³⁶</i>
Acc.	<i>klyomñai</i>	<i>klyominām</i>
PL. Nom.	<i>klyomñāna</i>	<i>klyomināñ</i>
Acc.	<i>klyomñana</i>	<i>klyominās</i>

5.7 THE DUAL. The Proto-Indo-European antecedents of the Tocharian duals³⁷ are hard to recover. As a distinct category, the dual survived in only a minority of Indo-European groups and that means we have a more restricted basis on which to reconstruct the dual in Proto-Indo-European than we do for most other parts of the nominal system. Also, the dual was the most marked of the three numbers in Proto-Indo-European and more subject to analogical rebuilding than either the plural or singular. The Proto-Indo-European situation is clearest in the case of thematic stems; the nominative-accusative (the two are never distinct in the dual) of non-neuter nouns ended in *-ō(w), while the corresponding ending of neuter nouns was *-oy. The *-w of the non-neuter was evidently optional in late Proto-Indo-European (as it remained in early

Sanskrit) and was probably a late addition to an earlier ending *-oH. In Tocharian the PIE *-w has left a reflex only in the two numerals A *wu* 'two' and A *okāt* [B *okt*] 'eight' from PIE *dwōw and *oktōw respectively.³⁸

The same *-i seen in the thematic neuter *-o-y appears in the neuter dual of non-thematic stems. An obvious example is P **wīkṛti* 'twenty' [B *ikām*, A *wiki*]. The corresponding non-neuter ending was *-e, e.g., Greek *mētēre* 'the two mothers', except for *i-* and *u-* stems, where we again find *-H, i.e., *-iH and *-uH.

If we examine the dual formations in Tocharian B, the other languages to give us a sufficient number of examples in this category, we find that the Proto-Indo-European state of affairs has been largely preserved. The PIE neuter *-i and non-neuter *-e would have coalesced in Proto-Tocharian as *-jā and one sees this combined ending in Tocharian B stems, both noun and adjective, ending in an obstruent (cf. Van Windekens, 1944:168 and 1979:239), i.e., nouns and adjectives in -nt- and -s, acting as a group in this as in most other ways (see also sections 5.621, 5.623, etc.). As examples we may cite B *perneñc* 'splendid' (pl. *perneñc*), *rsoñc* 'two spans' (pl. *rsonta*), or *weweñoṣ* 'having spoken' (pl. *weweñoṣ*), and *piltāṣ* 'leaves' (pl. *piltāsa*). Outside of the -nt- and -s- stems we have isolated consonant stems *ek* 'eye' [A *ak*], dual *eś(ne)* [A *aśām*] with -ne (on which see below) normally added to the older form *eś*, as *paine* [A *peṃ*] 'the two feet'. Again this latter form has -ne added to an older dual **pai* (PIE **pode*), which is still to be seen in the derivative adjective *paiñe* 'pertaining to the two feet' (see Winter, 1962, for discussion of this form and most other Tocharian duals). Further examples are B *sarne* [A *tsarām*] 'two hands' (implying a PIE antecedent **ghesere* [cf. Greek *kheire*]³⁹ and *klautsne* [A *klośām*] 'the tears' built analogically on the dual for 'eye', i.e., PTch **klewtsjā* the model of PTch *ekjā*.⁴⁰ The dual *maś(c)* 'the two fists' apparently seen in B 211a1 (Winter, 1962b:121) may reflect directly a PIE **mustiH*, though a rebuilt **mustye* would also be possible.

Aside from these formations, all other Tocharian duals show the originally thematic ending, either the old neuter in (PIE) *-oy or the non-neuter in *-oH. The former is found as the usual dual ending of thematic adjectives, e.g., *aurtse* 'broad', dual *aurtsi*. Among nouns one finds it as the dual ending in old neuter *n*-stems, *u*-stems, and *men*-stems, e.g., *ṣotrūni* 'the two marks' (pl. *ṣotrūna*), *treñkalwi* 'two attachments' (pl. *treñkalwa*), or *kenine* [A *kanweṃ*] 'the two

knees' (no plural attested in either language),⁴¹ *ślokanmi* 'the two ślokas' (pl. *ślokanma*).

For thematic nouns and for non-neuter *n*-stems we find reflexes of PIE *-oH. Thus we have *eñkwene* 'the two men' (sg. *eñkwe*, pl. *eñkwē*), *ñakte* 'the two gods' (sg. *ñakte*, pl. *ñakti*), or *kukene* 'the two heels'. Among non-neuter *n*-stems we have *oksaine* 'the two oxen' (pl. acc. *oksaim*) or *alyine* 'the two palms (of the hand)' (pl. acc. *alim*). Because of the former presence of *n*-stem byforms beside nouns of most other classes (see section 5.1), this ending, -ne, was liable to extension to other classes of nouns, particularly those which were, by phonological change, not well marked as duals. The obvious example of such potential confusion is the thematic nouns where both PIE *-os and *-oH would have given PTch *-e. The difficulty was obviated by adding the *n*-stem dual to the already (under-)characterized thematic dual in *-e, i.e., *-e-ne. Given an alternation of PTch *-e and *-ene as the dual of thematic nouns, it was possible to add -ne to any other, already characterized, dual, e.g., B *keni* ~ *kenine* or *eś* ~ *eśne*, etc.

In Tocharian A this process of extending the *n*-stem dual has been carried out to completion so that all duals, whether of nouns or of adjectives, end in -m (PTch -ne). We find the nouns *aśām* 'the two eyes', *klośām* 'the two ears' and the adjectives *yetuntin* 'adorned' or *lalāñkuntim* 'hung'.⁴²

Spurred perhaps by the presence of such "semi-thematic" nouns as *śamaške* 'boy' (pl. *śamaškañ*, dual *śamaškane*), we find a new dual endings, -āne, in certain thematic adjectives in Tocharian B. We find it particularly in those adjectives whose feminine is formed with -yā-, e.g., *prākre* 'firm': dual *prakaryane* (fem. sg. *prakarya*) *tute* 'yellow': dual *tucyane*, or *wartse* 'broad': dual *wartsane*. Some adjectives show both possible formations, e.g., *lalaṃṣke* 'tender': dual *lalaṃṣki* and *lalaṃṣkane*. For the genitive dual, see below.

5.8 THE GENITIVE. Though the genitive, along with the nominative, accusative, and vocative, was one of the four cases Proto-Tocharian inherited from Proto-Indo-European, it has, unlike the nominative and accusative, undergone severe remodeling. One sees the Proto-Indo-European state of affairs least changed in the *nt*-stems. Both nouns and adjectives of this declensional type show the expected reflexes of PIE *-os, i.e., B -e, A -Ø. A typical example is B *lānte* [A *lānt*] 'king's' from PIE **wleAntos*. If not a scribal error, the

same PIE *-os is represented by B *tkātre* 'daughter's' from P **dhugAtrós* [: Greek *thugatrós* 'daughter's'].

Also etymologically expected is the genitive singular *seyo* 'son' in Tocharian A (see section 5.52). It reflects exactly PIE **soyow* (**suyows*). On Tocharian B the **seyau* which would be the expected equivalent of Tocharian A *seyo* has been replaced by *seyi*, with the -i borrowed from the genitive of the *i*-stems (PIE *-eys). Though no longer found in the paradigm of any etymological *i*-stem, having been replaced on its native turf by the all-conquering -ntse [A -s; e.g., B *aścantse* 'head's' (PIE **aktsi*-)], this -i has shown remarkable popularity. At various times and at the command of various analogies, Tocharian speakers have added it promiscuously to pronouns (A *tñi* 'your', *ṣñi* 'own', B *cwi* 'his'), nouns of relation (e.g., *seyi* or B *mātri* [A *mācri*] 'mother's' [: Oscan *matreis* 'mother's'], foreign personal names (e.g., B *Swarnatepe*, gen. *Swarnatepi*), and other genitive endings (i.e., B -ep-i – to be discussed below).⁴³

Somewhat less obviously, it shows up as -y added to a pre-existing accusative singular, e.g., B *lāntsoy* [A *lāntse*] 'queen's' (possibly, the ubiquitous genitive singular -e of Tocharian A feminine nouns and adjectives, e.g., *oñkālme* '(female) elephant's' or *āštār* 'pure' (fem. gen. sg.). (So Klingenschmitt, 1975:154 (fn. 10), but see also section 5.32.) In similar nouns B has -ntse; in corresponding adjectives only do we find -ai (= accusative singular).⁴⁴ The same process, applied to loanwords at a much later date, produced Tocharian A -āy, -uy, and even once -iy, e.g., *ñakteññāy* 'goddess' (borrowed from Tocharian B) or *upādhyāy* 'teacher's' (borrowed from Sanskrit). In such cases Tocharian B shows a genitive in -ñ (of pronominal origin, e.g., *tañ* 'thine'), e.g., *Aranemiñ* 'Aranemi's'.

Like the usual dual ending in -ne [A -m], the common genitive singular ending -ntse [A -s]⁴⁵ is a legacy of the former presence of *n*-stem byforms to nouns of other declensional types. As has already been partially suggested by Krause and Thomas (1960:10), a Proto-Tocharian *-n(t)se is nothing but a genitive in (PIE) *-eso of pronominal origin⁴⁶ to an *n*-stem, i.e., *-neso. This explanation of PTch *-n(t)se, unlike those of Van Windekens (1944:152) or Couvreur (1947:sec. 65, 40), who see it as an *n*-stem plus the adjective forming -tstse, allows us also to explain the universal genitive plural ending -nts in Tocharian B and its much rarer Tocharian A counterparts -is. These both go back to a PTch *-n(t)sā from PIE *-nesom with the same pronominal genitive plural, *-som, seen in OCS *těchū* (from

PIE **oisom*). The PIE **e* preceding the ending of genitive plural, rather than the expected **oy*, is no doubt due to the influence of the corresponding singular.⁴⁷ The usual Tocharian A genitive plural ending, *-śśi*, has, however, no obvious etymology and must remain unexplained.⁴⁸

The other new genitive singular desinence is not so historically transparent. The forms are *-epi* in Tocharian B and *-(y)āp* in Tocharian A. In Tocharian B it is restricted to the masculine singular of adjectives, while Tocharian A has extended this original distribution to include not only masculine adjectives but also masculine nouns denoting rational beings (parallel to the use of *-m* to mark the accusative singular of such nouns). What precedes the *-p-* of the ending is etymologically part of the noun's stem rather than the genitive ending. The two languages have generalized from different nominal stems.

As to the *-p-*, Lane (1948:294) has cogently suggested that we are dealing with an old possessive adjective formation in PIE **bh-* such as we see in Greek *árgu-phos* 'silver white' [: *árguros* 'silver', *argós* 'white'], Lithuanian *ankstý-bas* 'of an early sort' [: *ankstí* 'early' (adv.)], or Gothic *bairhta-ba* 'brightly' [: *bairhts* 'bright']. A Proto-Indo-European accusative singular in **bhom* would give the PTch **pā* which directly underlies Tocharian A *-p* and which forms the base to which Tocharian B speakers added the ubiquitous genitive ending *-i-*. The fact that we must assume a Proto-Indo-European accusative prototype rather than a genitive is no particular handicap to the proposed solution, as we have seen that both Tocharian languages allow a genitive noun to be modified by an adjective in the accusative and there is no particular reason to suppose that this syntactic pattern is a late one. (For another view, see Van Windekens [1979:183-185].)

The dual genitive is attested only with those duals which end in *-ne* [A *-m*], i.e., Tocharian B *eśnaisāñ* 'of the two eyes' or *klautsnaisāñ* 'of the two ears'. As Winter (1962b:126) has pointed out, the Tocharian B *-aisā-* in this ending is the exact phonological equivalent of Archadian *-oiu-* (e.g., *Didimoiun*, Schwyzler, 1953:557). Other Greek dialects show assimilation to *-oil-* or syncope to *-oi-*. As both Winter and Van Windekens (1979:248) agree, this agreement of Greek and Tocharian is highly significant. The *-ñ* (instead of *-āñ* we also have *-i* attested) is the same that is seen in the singular. Tocharian A's *klośnls* 'of the two ears' shows the influence of the

genitive singular; corresponding to Tocharian B's *-nais-*, we would have expected **klośnes*.

5.9 THE VOCATIVE. Only Tocharian B distinguishes a vocative singular from the nominative. In Tocharian B there are three formal different ways of marking the vocative singular: (1) with *-u* preceded by palatalization, used by masculine thematic adjectives, e.g. *oroccu* 'great!' or *poyśiññeşşu* 'all-knowing!', or nouns in (PIE) **-ēr* e.g., *arañcu* 'O heart' or *kaurşu* 'O steer'; (2) with *-ai-*, used by masculine agent nouns in *-a*, e.g., *preñcai* 'O bearer' or *tārkaucāi* 'releaser' and also by the adjective *klyomo* i.e., *klyomai* 'O noble one'; and (3) with *-ā*, used by masculine thematic nouns and nominalized adjectives, e.g., *ñakta* 'O god', *larekka* 'dear one!', *soṃśka* 'O (little) son', *saswa* 'lord!', or *añmālaška* 'O sympathetic one'.

Vocatives are often etymologically slippery. Being on the border between a true case form and an interjection, and being most used in highly affective contexts, they are extremely liable to change, particularly by the addition of strengthening particles. Our discussion of the history of these Tocharian B forms, then, is more speculative than we would like, but it seems probable that *-u*, for instance, is nothing more than PIE **-e*, the normal vocative ending of thematic stems plus a particle **u*. Such a particle is well attested by other Indo-European languages, but its normally adversative or correlative meaning in those languages does not lend a ready explanation of its use in direct address. The *-ai* of *ā*-stems may well be old; one naturally thinks of Greek *gúnai* 'O woman' beside nominative *gunē* Sanskrit *āśve* 'O mare' beside nominative *āśvā* (cf. Van Windekens 1979:187). The *-ā* is the most difficult. Since it occurs, among other places, as the vocative of *ēn*-stems (see section 5.315), it is possible that this *-ā* represents an old nominative ending, **-ē* (from early PIE **-ēn* by the loss of word final resonants), displaced to the vocative by the re-emergence of stem final **-n* in the nominative which was restored there on the basis of the rest of the paradigm.

Whatever their ultimate origin, all three of these endings have spread to other declensional types on the basis of analogical pressure. Their synchronic distribution appears to owe as much to semantic features (i.e., whether they are adjectives or agent nouns or "others") as it does to purely formal (and historical) criteria.

APPENDIX: THE "SECOND STORY" CASES

Chapter V has been devoted to the history of the primary cases: the nominative, accusative, genitive, and vocative, since they form part of the Proto-Indo-European heritage of the Tocharian languages. Those four cases, however, form only a minority of the cases actually found in Tocharian A and B. The other seven cases are not inherited from Proto-Indo-European (though at times they "replace" Proto-Indo-European cases that were lost in Tocharian) but are built by the addition of a post-position added to the normal accusative form of the singular, dual, and plural (Table 68).

TABLE 68
SECONDARY CASES IN TOCHARIAN A AND B

	TOCHARIAN B	TOCHARIAN A
Perlative	-ā	-sā
Comitative	-(a)śśāl	-mpā
Allative	-ac	-śc
Ablative	-(a/ā)ṣ	-mem
Locative	-am	-ne
Instrumental	-yo	--
Causal	--	-ñ

Since only two of the secondary case desinences are etymologically the same in the two languages, it seems reasonable to suppose that the agglutination of post-position and accusative was only beginning to take place as the Proto-Tocharian unity was dissolving. The two desinences which are identical etymologically are the perlative and the locative. The perlative in Proto-Tocharian (or rather, the Proto-Tocharian construction which resulted in the perlative in the attested languages—we will continue to use the syntactically simpler phrase) must have been *-ā. It has remained unchanged in Tocharian A. In Tocharian B, on the other hand, as Klingenschmitt (1975:156) has seen, the older perlative plural, *-ns-ā,

was reanalyzed as *-n-sā when the simplification of final *-ns left the non-perlative accusative ending in *-n. The shift in morpheme boundaries was presumably favored, since it meant that, henceforward, all the secondary case markers would begin with a consonant. Thus, the reshaped *-sā was added as the perlative to singular and dual, as well as plural.⁴⁹ The Proto-Tocharian locative was formed by adding the post-position *(e)ne to the accusative [: English *on*]. The form that was generalized in both languages was that which resulted from the addition of *(e)ne to the accusative singular of thematic nouns, i.e., PTch *-e-'ne. With the loss of final vowels in Tocharian A, we see a shift of morpheme boundaries again, from *-a-n to *-an.

This same shift of morpheme boundaries and tendency to generalize the originally thematic state of affairs to other declensional types is seen in Tocharian A -(a)śśāl, -ac, and -(a/ā)ṣ (here the ā stems have also played a role). The -śśāl of the Tocharian A comitative is, of course, nothing more than the ordinary preposition śśa [B ś/e] 'together with' used post-positionally.⁵⁰ Likewise, the -ṣ of the Tocharian A ablative is the ordinary Tocharian post-position ṣa 'from' (of unknown etymology). The Tocharian A allative's -c is presumably to be equated with Greek -de (cf. *oikónde*), while the best suggestion for the -śc of the Tocharian B allative is still probably Pedersen's equation with Greek *este* 'up to' (from *-ens-te). The comitative -mpā and ablative -mem of Tocharian B remain etymologically mysterious.

The Tocharian A instrumental in -yo is not matched in Tocharian B but is clearly nothing more than Tocharian A *yo* 'and' used as a case ending. (The earlier history of (-)yo is not known.) Likewise the rare Tocharian B causal in -ñ is not matched by anything in Tocharian A. Like Krause and Thomas (1960:90), one is tempted to see here the same genitive ending that occurs among the personal pronouns (see section 6.13), but such an explanation is by no means assured.

NOTES

- Both Van Windekens (1979) and Winter (1985) suggest that a dative singular might subsist in certain Tocharian genitives, particularly the *-i* which characterizes the genitive singular of several terms of relationship, e.g., Tocharian A *pācri* 'father's'.
- In these reconstructed Proto-Tocharian paradigms **-e(n)*, etc., reflects PIE **-óm* when stressed, while **-ā(n)* represents **-om* when unstressed.
- Particularly frequent were derived thematic adjectives in (PIE) **-syo-*, **-nyo-*, and **-t(w)yo-* [B *-sse*, *-ññe*, and *-tstse*]. (For a discussion of the wide range of semantic values of *-sse*, see Zimmer [1982/83].) One should note the proclivity in Tocharian for **yo-* stems rather than straight **o-* stems. It should also be noted that in those adjectival classes where the feminine plural would have remained distinct from the neuter plural, it was usually the latter which survived in the combined function, e.g., B fem. pl. *krenta* 'good'. The old inherited feminine plural looked, all too often, like the feminine singular (both in **-ā*), while the neuter plural was more clearly marked.
- The exact shape of some of these PIE declensional types and the nomenclature used to describe them are unsettled.
- Compare the similar results in Latin: nom. *pater*, acc. *patrem*, 'father'.
- Such a reconstruction is, of course, speculative, but some such history has always been implicit in the existence of the Germanic "weak" adjective (cf. Prokosch, 1938:260-261).
- At least as far as the accusative singular desinence, *-m*, is concerned, this explanation goes back to Petersen, 1935 (cf. also Van Windekens, 1979:173).
- For the possibility that we have **-en-* rather than **-Een-* (the latter only with possessive meaning in PIE—see Hoffmann [1955], see Klingenschmitt (apud Jasanoff [1980:381, fn. 9]). However, since many derivational formations in Proto-Indo-European could be both exocentric (possessive) and endocentric, e.g., thematic derivatives or holokinetic ones (for the latter see Adams, 1985), there is no semantic necessity for imputing a phonological distinction as Klingenschmitt would do.
- One should compare the Greek type *hippeús* 'horseman' (derived from *hippos*) with **-e-u-s* discussed by Schindler (1976).
- Tocharian shows the same substitution of the originally pronominal ending **-oy* for the earlier nominal one in **-ōs* that occurred in Greek, Italic, and Celtic.
- If Tocharian B *āñme* 'soul' is really to be directly equated with Greek *ánemos*, Latin *animus* (but see section 3.2), then we perhaps have an example of a thematic noun not end-stressed that was not assimilated to the new, combined, type, since its accusative singular is *āñm*. Tocharian A preserves the end-stressed **-oy* in the nominative plural in its thematic adjectives (see section 5.24).
- These Tocharian A nouns may represent a conflation of the **-r/n-* heteroclites, as Van Windekens (1979:68) suggests (with references to previous literature).

- That this form represents a new and analogical nominative (sic) singular (as *luwa* 'animal' is to accusative *luwa*) used as an accusative (Van Windekens, 1979:11 is not credible).
- To this almost general treatment the plural of A *šām* 'woman' is a partial exception. The accusative plural is the expected *šnās*, but in the nominative we have *šnu* (as if from PTch **šānwā*).
- The hapax legomenon, *petso* 'husband' (acc. sg.), could reflect a late PIE **potyām*, if the final *-o* is not the surface manifestation, as it so often is in poetry *metri causa*, of an underlying */ā/*, i.e., */petsā/* < PIE **potim*. As Winter points out (p.c.), **potyām* is extremely unlikely as a masculine.
- In Tocharian A the **-ō* of the accusative singular is seen only indirectly, by the umlaut of the previous vowel.
- The possibilities for confusion and mutual influence among the *ā-*, *ā-n-*, and *ā-Een-* stems can be seen from a look at the following pattern:

	a-stems	a-n-stems	a-Een-stems
PIE:			
Nom. sg.	-ā	-ān	-āEēn
Acc. sg.	-ām	-ānṃ	-āEenṃ
Nom. pl.	-ās	-ānes	-āEenes
Acc. pl.	-ās	-ān(ṇ)s	-āEen(ṇ)s
Proto-Tocharian:			
Nom. sg.	-ā	-o	-āje
Acc. sg.	-o	-ā[nā]	-ājā[nā]
Nom. pl.	-ā	-ānǰā	-ājānǰā
Acc. pl.	-ā	-āns	-āns

- The Tocharian A forms given are the most usual. Particularly for (PIE) **-syo-* and **-nyo-* stems, we find other endings based on other analogies. In both languages the feminine sometimes ends in **-ā*, sometimes in **-yā*.
- The productive extension of *i(E)*-stems by *n*-stems to form verbal abstract represents a significant isogloss shared by Italic and Celtic as well as by Tocharian. When nouns of this type were used as agent nouns, this class shows the replacement of the nominative by the accusative singular, e.g., B *ākši* 'announcing/announcer' (nom./acc.).
- The Tocharian B adjective *krošce* 'cold' looks to be the restructured relic of an *-ōn/-en-* formation. A PIE **krustōn*, **krustenṃ* would have given Tocharian B **krosto*, **krāscāṃ*. The actual paradigm is a conflation of the two (cf. the nominal derivative *krostaññe* 'coldness').
- One should note the acc. sg. masc. of A *wāt* 'second', namely *wcam*, where the PTch **-ā-* is exceptionally preserved.
- Except in adjective stems in *-r-*, the *-m* is secondarily lost.

23. Where the strong declension was formed by a PIE *yo*-stem, there are no early traces of the weak declension preserved in either language (but see section 5.33). Likewise, consonant stems show no traces of *n*-stem forms in Tocharian B, while in Tocharian A we have only an occasional *n*-stem accusative singular, e.g., *krañcām* 'good' beside *krant*. The palatalization seen in the Tocharian A accusative plural is not a relic, however distant, of the weak declension, but rather a simple generalization of the palatalization proper to the nominative plural (e.g., acc. pl. *krañcās* instead of **krantās* from PIE **onts* built after the nominative plural *krañc* from PIE **ontes*).
24. For the reconstruction with **-H-*, see Sihler, 1973.
25. Seen from this wider perspective, the demonstrative pronoun in Tocharian need not show a PIE stem **tē-* as is reconstructed by Van Windekens, 1976:249 or Winter, 1980c:552. A further example of this "pattern palatalization" is to be seen in the Tocharian B adjectives ending in *-tstse*, e.g., *orotstse* 'great' with the secondary *-cc-* in place of *-tsts-* in the accusative singular and in the plural.
26. An exception is *pracar* 'brother', whose plural is *pracre* (nom.), *pracres* (acc.). I have no explanation for the difference in treatment. The form *pratri* is usually taken as a dual but may be an aberrant plural (Winter, 1962:124; Pedersen, 1941:76 — see section 5.7).
27. One should also note the accusative singular *maśc* 'list' from PIE **mustim* [Sanskrit *muṣṭī-*, Avestan *muṣṭi-* 'fist'] and the accusative singular *pets(o)* 'husband' (acc. sg.), possibly from PIE **potim* (if the final *-o* is from an underlying /ā/, see also fn. 15).
28. With the same loss of initial **d-* seen in other neuter nouns, i.e., AB *ākr-* 'tear' (PIE **dakru*) or AB *or* 'wood' (PIE **doru*). For a discussion of the words for 'tear', see Hamp, 1967. For the etymology of *yok/yākwa*, see Adams, 1982/83 (otherwise Winter, 1980b).
29. The nominative singular is a *hapax legomenon* at K-12b3: *colye laks ra misārpts kawāñ nakšām* [śaul] 'like the fierce fish he loses (his life?) because of desire for flesh' (the suggestion "life" is Sieg's [1938:53]). The Proto-Indo-European shape is based on my presumption of an etymological relationship of this word with Latin *bēlua* 'beast' if the latter is from **dhwēsluā* (cf. *bēstia*, if from **dhwēstiā-*).
30. These endings are, of course, those appropriate for non-neuters. The neuter is endingless in the singular, e.g., PIE **okw* 'eye', which is reflected by Tocharian B *ek* [A *ak*]. The Proto-Indo-European plural to this noun is not attested in either language. Tocharian A knows no plural forms at all, only dual ones. In Tocharian B the attested plural (*eśaiñ*, acc. *eśaim*) is modeled on the dual (see section 5.7).
31. The different initials, Tocharian B *s-*, Tocharian A *ts-*, probably represent different resolutions of PTch **śś-*. Or, if Tocharian A *tsar* represents PIE **ghesor-*, they may reflect PTch **śś-* versus **śs-*.
32. External evidence would strongly suggest that the PIE feminine should be **usyā-* (**usyēA*) rather than **usā-* (**usēA-*), required by Tocharian. Proto-Tocharian seems to have expanded the feminine marker **-ā-* at the expense of **-yā-*.
33. In this case, as in many others, the old neuter plural was more clearly distinguished from the feminine singular that was the competing feminine plural.
34. The stem of the preterite participle in Tocharian A, *lant-*, shows complex shaping: **lāt-* → **lalāt-* (with reduplication added) → **falt-* → *lant-* (with dissimilation which incidentally brought it into line with the present stem, *lānt-*). The form in Tocharian A with *-nt-* are discussed below. The *-u*-stem in *Apāpeku* secondary. The presence of a-umlaut testifies to an earlier **pepeykā-* as Tocharian B.
35. There are, of course, the isolated AB *po* 'all' (PIE **pant(s)*) and B *kren* [A *krant-*] 'good', which may be an active present participle in origin.
36. The *-i-* we find throughout the Tocharian A feminine paradigm is presumably from PTch **-ā-*, but its presence here, in this environment, is not easily explained (cf. Winter, 1977[78]:150).
37. The *dual* includes Krause's (1954) and Van Windekens' (1979) dual and paradigm, which, as Winter (1962b) has shown, are the same. For Krause's pluralative, see Winter (1962b) or Van Windekens (1979:248-249).
38. The PIE **-o* which is occasionally seen, e.g., Greek *duo* or in the Indo-Arya duals, often used vocatively, in *-a*, is this same **-oH* with the laryngeals lost *pausa*. The **-H* itself may well be an importation from the pronouns.
39. Like B *šarne* is the dual *kesārne* 'the two filaments' from singular *kesār*. The other noun in Tocharian B ending in *-r* which attests a dual is *puwar* 'fire'. In this case, the dual is *pwāri*, showing the same kind of extension of the thematic ending (PIE **-oy*) in the dual as it does in the plural (B *pwāra* with PIE **-eA*).
40. One should compare the irregular plural *eśaiñ* 'eyes' in Tocharian B, which is obviously modeled on the as yet unattested plural *klautsaiñ* 'ears'. A similar case for the dual is perhaps B *āmtsne* from PTch **āntsīā*, where we would otherwise expect **āntsene* beside a singular *āntse* 'shoulder' (PIE **ōm(e)sos*).
41. One might have expected **kennine* in Tocharian B. See section 3.3.
42. There is one possible exception to this generalization in Tocharian A. The form *pratri* 'the two brothers (?)' is usually taken as a dual, but Winter (1962:12) following a suggestion by Pedersen (1941:76), sees it as an alternate plural beside the more usual *pracre* (see section 5.4).
43. For a different explanation, starting from a pronominal dative in **-ey*, see V. Windekens, 1979:183.
44. A separate genitive singular of such feminine adjectives is not shown in previous treatments of Tocharian grammar, precisely because it is formally identical with the accusative. The problem grows out of a peculiarity of Tocharian conceiving whereby a noun in the genitive may be modified by an adjective in the accusative. Where the accusative and genitive are identical, it is customary to assume that we are dealing with an accusative only. See Krause and Thomas, 1960:92.
45. Tocharian A *-es* corresponds regularly to Tocharian B *-āntse*, *-entse*, or *-onts* while Tocharian A *-is* corresponds regularly to Tocharian B *-āntse*. In Tocharian A, *-is* has been extended as an independent genitive singular suffix, e.g., *šwālsiyis* to *šwālsi* 'food' (Krause and Thomas, 1960:104-5).

46. One should compare the chapter on pronouns for Tocharian B *cwi* 'his' from PIE **eso + u* (plus, much later, -i). See section 6.64.
47. Van Windekens' thesis (1979:181-182 and 234-235) that we have here a conflation of *n*-stems and *s*-stems (i.e., **ns-os* in the singular and **ns-om* in the plural) is *mutatis mutandis* possible phonologically but most improbable morphologically.
48. Winter suggests (p.c.) that A *-śśi* might be explained as **s-ś-i*, with the **i* as in pronominal genitives, the **ś-* as the palatalized counterpart of B *-ts* (but where's the *-n-*?), and the *-s-* as the accusative plural.
49. As Sapir suggested (1936:270), the PTch **-ā* is probably to be derived from PIE **ad*.
50. The geminate *-ś-* of A *-śśā* reflects its origin as a separate word, since it is nothing more than the tense variant of the phoneme which is normal initially or finally. See section 2.1.

Chapter VI

THE PRONOUN

6.0 INTRODUCTION. To the historical linguist the Tocharian pronouns present both the reassuringly familiar and the tantalizingly strange. On the one hand, we have the (Tocharian B) demonstrative pronoun *se* (masc.), *sā* (fem.), *te* (neut.) which reflect, clearly and unambiguously, Proto-Indo-European **so*, **sā*, and **tod* [: Greek *ho*, *hē*, *tó* or Sanskrit *sas*, *sā*, *tad*]. On the other hand, the first person singular personal pronoun, B *ñās* (nom./acc.), A *nās* (masc. nom./acc.), *ñuk* (fem. nom./acc.) presents a large array of forms none of which has an obvious Proto-Indo-European antecedent and which, in the Tocharian A differentiation of masculine and feminine, presents a distinction unique within Indo-European.

6.1 PERSONAL PRONOUNS. While the history of the Tocharian personal pronouns remains obscure in some places, a close look at the problem as a whole does serve to bring into focus the general line of development. The starting point of any investigation, the actual Tocharian forms, are given in Table 69.

6.11 THE PROTO-INDO-EUROPEAN BACKGROUND. The Proto-Indo-European pronouns as reconstructed by recent investigators (see particularly Cowgill, 1965:169-70) show a large variety of forms, but not always ones that match the Tocharian data, as seen in Table 70.

In every case, except perhaps the second person singular, the stem of the nominative and the stem of the various oblique forms are distinct. The stressed oblique forms are built from the unstressed accusative by the addition of a suffix **-m/wé*. The stressed accusative and stressed genitive/reflexive differ from one another in the place

TABLE 69
TOCHARIAN PRONOUN FORMS

		TOCH. B	TOCH. A
First singular	Nom.	<i>ñäs/ñis</i>	<i>näs</i> (masc.) <i>ñuk</i> (fem.)
	Acc.	<i>ñäs/ñis</i>	<i>näs</i> (masc.) <i>ñuk</i> (fem.)
	Gen.	<i>ñi</i>	<i>ñi</i>
	Enc.	<i>-ñ</i>	<i>-ñi</i>
Second singular	Nom.	<i>tuwe/twe</i>	<i>tu</i>
	Acc.	<i>ci</i>	<i>cu</i>
	Gen.	<i>tāñ</i>	<i>tñi</i>
	Enc.	<i>-c</i>	<i>-ci</i>
Reflexive [all numbers]	Gen.	<i>ṣāñ</i>	<i>ṣñi</i>
First dual	Nom.	<i>wene</i>	
	Acc.	<i>wene</i>	
Second dual	Nom.	<i>yene</i>	
	Acc.	<i>yene</i>	
First plural	Nom.	<i>wes</i>	<i>was</i>
	Acc.	<i>wes</i>	<i>was</i>
	Gen.	<i>wesi/wesāñ</i>	<i>wasām</i>
Second plural	Nom.	<i>yes</i>	<i>yas</i>
	Acc.	<i>yes</i>	<i>yas</i>
	Gen.	<i>yesi/yesāñ</i>	<i>yasām</i>
Plural enclitic [all persons]		<i>-me</i>	<i>-m</i>
Third singular enclitic		<i>-ne</i>	<i>-ām</i>

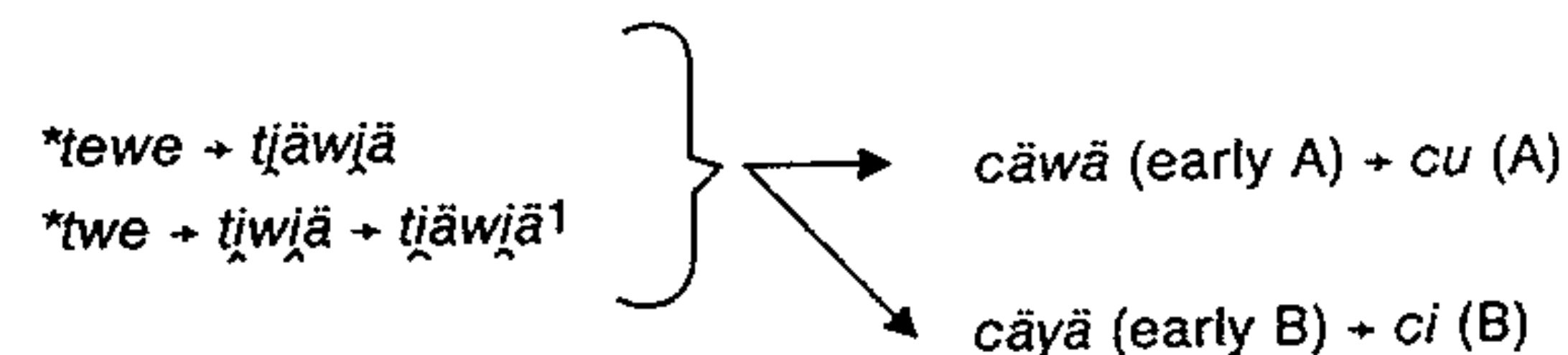
ment of stress and in the ablaut grade found in the preceding syllable.

6.12 THE SECOND PERSON SINGULAR. The Tocharian pronoun most readily placed in this series is the second person singular, B

TABLE 70
PROTO-INDO-EUROPEAN PRONOUN FORMS

	Nom.	Unstr. Acc.	Stressed Acc.	Unstr. Gen.	Stressed Gen./ Reflex
1st sg.	<i>eĝ(h)(om)</i>	<i>me</i>	<i>(m)mé</i>	<i>moy</i>	<i>même</i>
2nd sg.	<i>tuH(om)</i>	<i>te</i>	<i>twé</i>	<i>toy</i>	<i>téwe</i>
Reflex. [all pers./ numbers]		<i>se</i>	<i>swé</i>	<i>soy</i>	<i>séwe</i>
1st du.	<i>wey(om)</i>	<i>noH</i>	<i>ṛHmé</i>		
2nd du.	<i>yuH(om)</i>	<i>woH</i>	<i>uHwé</i>		
1st pl.	<i>wey(s/om)</i>	<i>nos</i>	<i>ṛsmé</i>		
2nd pl.	<i>yuH(s/om)</i>	<i>wos</i>	<i>usmé</i>		

tuwe, A *tu*. These two forms naturally reconstruct to Proto-Tocharian **tuwe*, which matches the Sanskrit *tuvām* exactly. Both reflect an earlier Proto-Indo-European **tuHóm*. The Tocharian forms of the accusative singular could reflect either PIE **tewe* or **twe* or both. The phonological development of the accusative would have been something on the order of



The enclitic form of the second person singular pronoun in Tocharian B is transparently nothing more than the unstressed PIE **te*. Tocharian A a final *-i*, taken ultimately from the genitive of the first person singular, has been added. The second person singular genitive is, in both languages, built on the model of the first person.

6.13 THE FIRST PERSON SINGULAR (OBLIQUE). The Proto-Indo-European starting points for the first person singular pronoun

were structurally similar to those for the second person (cf. the chart in section 6.11) and the two paradigms have continued to influence one another throughout the history of Tocharian, though each has also been subject to phonological changes that did not affect the other.

To begin with, as Meillet saw already in 1911 and as G. Schmidt reaffirmed more recently (1968:227), the stressed forms of the oblique **mmé* and **méme* underwent dissimilation whereby the second **m* became **n* as in Iranian and Slavic, thus **mne* and **mene*. At some later time the accusative **mne* became either **mānjā* with epenthesis or **njā* with the loss of the initial resonant in the two resonant sequences (the two outcomes may well have resulted from different syntactic position and differing syntactic stresses). The genitive/reflexive **méne*, on the other hand, came to match **mānjā* analogically since the two forms, accusative and genitive/reflexive, were identical in the second person (as **tjāwja*).

It is on the basis of this slightly rebuilt genitive of the first person singular, **mānjā*, that the second person singular and the reflexive (of all numbers and persons) were rebuilt to give **tānjā* and **sānjā*. (The palatalization of the initial *s-* that we see in B *šāñ* and A *šñi* is probably the result of secondary contact with the *-ñ-* after the fall of *-ā-* in an open syllable, cf. *šalype*, section 3.19.)

Also in the pre-Tocharian period the initial *ñ-* of the originally stressed accusative, **njā* was analogically extended to the originally unstressed accusative (**mjā*) and the unstressed genitive (*mjā*).²

The resulting Proto-Tocharian system must have looked something like that shown in Table 71.

TABLE 71
PIE FIRST AND SECOND PERSON
ACCUSATIVE AND GENITIVE PRONOUNS

	FIRST	SECOND
Unstressed acc.	<i>njā</i>	<i>tjā</i>
Stressed acc.	<i>njā</i>	<i>tjāwja</i>
Unstressed gen.	<i>njai</i>	<i>tai</i>
Stressed gen.	<i>mānjā</i>	<i>tānjā</i>

The system was subsequently simplified by the loss of the originally unstressed genitive in the second person and the originally stressed genitive in the first person. The lack of symmetry in reduction is the most difficult change to understand of all that collectively transformed the Proto-Indo-European pronominal system into the Tocharian one. Lastly, during the separate history of Tocharian A the final *-i* of the genitive singular of the first person was tended to the second person *tñi* and the general reflexive *šñi*. That appears in the Tocharian A enclitic forms *-ñi* and *-ci* must also, as Van Windekens has seen (1976:315), be ultimately from the genitive *ñi*, though the exact analogical mechanism is not clear.

6.14 FIRST PERSON SINGULAR NOMINATIVE/ACCUSATIVE
vexing problem of the pronominal system is the shape of the various forms of the nominative/accusative first person singular pronoun. The presence in Tocharian A of a distinction between masculine and feminine. These forms are given in Table 72.

TABLE 72
TOCHARIAN FIRST PERSON SINGULAR
NOMINATIVE/ACCUSATIVE PRONOUNS

	TOCH. B	TOCH. A
Nom./acc.	<i>ñās</i>	<i>nāš</i> (m.) <i>ñuk</i> (f.)

As Holger Pedersen pointed out long ago (1941), the Tocharian masculine form, *nāš*, is probably to be explained as a dissimilation from an earlier **ñās*. If so, all three forms are ultimately from Proto-Tocharian stressed accusative **njā* plus some particle. Possible PIE particles might be **-g(h)e* (for B *ñās* [cf. Greek *égō* **-se* (for A *nāš*), and **-kw(e)* (for A *ñuk*), but the exact preforms and all of the subsequent developments are hard to follow.³

6.15 TOCHARIAN A FEMININE GENITIVE FIRST PERSON SINGULAR PRONOUN. The ancestry of the Tocharian A feminine genitive *nāñi* remains opaque. Van Windekens' suggestion (1976:315) that there was once a feminine stem **nā* (with the feminine *-ā-* added to the Proto-Tocharian A masculine **njā*) to which was added the regular Tocharian A genitive ending *ñi* (cf. *tñi* and *šñi*) raises more questions than it answers, though he is certainly right in seeing

this form the outcome of a complicated series of analogical rebuildings. Particularly dubious is his suggestion that the actual Tocharian A form, *nāñi*, comes from an earlier **ñāñi* influenced by the masculine nominative/accusative *nāṣ*. One wonders how analogical influence emanating from the masculine accusative could affect the feminine genitive without also having affected the feminine nominative/accusative or the masculine genitive. More likely, to my mind, is the assumption of a simple phonological dissimilation from **ñāñi* to *nāñi*.

6.16 THE DUAL AND PLURAL NON-ENCLITIC PRONOUNS. For the non-enclitic plural pronouns in Tocharian we need to start from the nominative and unstressed oblique forms reconstructable in Proto-Indo-European (Cowgill, 1965:169) shown in Table 73. As

TABLE 73
PIE NOMINATIVE AND UNSTRESSED
OBLIQUE FORMS

	FIRST	SECOND
Nominative	*weys	*yuHs
Unstressed oblique	*nos	*wos

has long been seen (at least since Peterson, 1935), the Proto-Tocharian forms **wes* and *yes* (notice the preservation of final -s in these monosyllabic forms) are the result of mutual contamination of the nominative and oblique stems. A purely Tocharian genitive is formed to these pronouns by the addition of either (1) **-ñā* (as was the case of the second person singular and the reflexive pronouns), giving B *wesāñ/wesām*, A *wasām* and B *yesāñ/yesām*, A *yasām*, or (2) **-āy* (from the unstressed genitive pronoun of the singular) as in B *wesi* and *yesi*.

The Tocharian B dual pronouns of the first and second persons are to be explained in the same way. We start from the Proto-Indo-European forms as reconstructed by Cowgill, given in Table 74.

The dual pronouns show the same conflation of the two stems to give Proto-Tocharian **we* and *ye*, to which the ordinary (nominal) dual ending *-ne* was added to give the actual Tocharian B forms

TABLE 74
PIE FIRST AND SECOND PERSON
DUAL PRONOUNS

	FIRST	SECOND
Nominative	*wey	*yuH
Unstressed oblique	*noH	*woH

wene and *yene*. The genitive is also analogical and formed by addition of the nominal *-naisāñ* to give *wenaisāñ* and *yenaisāñ*.

6.17 GENERAL PLURAL AND THIRD PERSON SINGULAR ENCLITIC PRONOUNS. Surely the most difficult personal pronoun account for historically (besting in this regard even the first person singular pronouns) is the enclitic pronoun used for all persons of plural, B *-me*, A *-m*. The conflation of all three persons in a single form is distinctly unusual (and within Indo-European *sui generis* far as I know), and any account of its origin must realistically account for this conflation.

What might be called the Pisani-Van Windekens hypothesis (Pisani, 1941-42; Van Windekens, 1976) sees the Proto-Tocharian **-me* as related to Sanskrit *amú* or *amā-*. Van Windekens at least sees the final **-e* as rebuilt on the model of the third person singular enclitic, **-ne*. We must also assume, it would appear, some early elision of the initial vowel, presumably beginning in those situations where the enclitic followed a person/number ending which itself ended in a vowel. Both of these assumptions seem reasonable. Entirely unmotivated, however, is the putative extension of this originally third person form to the first and second persons, and thus the entire hypothesis is best put aside.

Much more likely is Čop's (1974) proposal which would see **-me* as the more or less regular phonological development of the expected Proto-Indo-European enclitics **nsmé*, **usmé*, and the (phonologically) **sme-* (cf. section 6.11). Here again the final vowel must be analogical in origin and any initial vowel subject to elision. In the case of the second and third persons both processes are attested in Anatolian, e.g., Hittite *-šmaš* 'to you, them'. Phonologically regular in Proto-Tocharian is the loss of **n* before **s-*

Tocharian B *mīsa* 'meat, flesh' from PIE **mens-*) so that the first person plural would also show the shape **-smos*, and so too is the loss of **-s-* before nasals (at least under certain conditions), e.g., *krāñi* '(nape of) neck' from **krAsniom* (see section 3.43 and cf. the different outcome in word initial position as seen in *smi-* 'smile'), as it did also in Luvian *-mmaš*.

The third person singular enclitic has a much more transparent etymology. As Van Windekens (1941) and Pisani (1941-42) have long since pointed out, it is the reflex of the accusative of the PIE pronominal stem **e/on-*, namely **onom* (cf. Slavic *onŭ*). The phonological changes leading to Tocharian B *-ne*, A *-m* are perfectly regular, and the only morphosyntactic change of note is the generalization of the original masculine/neuter form to include the feminine as well.

6.2 INTERROGATIVE AND RELATIVE PRONOUNS. The interrogative pronouns are as shown in Table 75 (note that there is no distinction in number). The nominative and accusative are trans-

TABLE 75
TOCHARIAN INTERROGATIVE
PRONOUNS

	TOCH. B	TOCH. A
Nominative	<i>kūse</i>	<i>kus</i>
Accusative	<i>kūce</i>	<i>kuc</i>
Genitive	<i>ket(e)</i>	<i>ke</i>

parently to be segmented (in Proto-Tocharian terms) as **ku-* or **kwā-* plus **se/ce*. The latter, of course, is nothing more than the usual masculine demonstrative pronoun (see section 6.5). The prior part may either reflect a PIE **kwu-* 'where' (the combination would then be similar to that seen in Gothic *harjis* 'who', dialectal Lithuanian *kuř jīs* 'id.' (Meillet and Lévi, 1913:419, Krause and Thomas, 1960:165) or PIE **kwis* 'who', in which case the Tocharian forms would be very similar to those seen in Greek *hó(s)tis* 'whosoever', only with the order of the elements reversed.

The genitive in Tocharian A could reflect a PIE **kwoyos* and, if so, would be the exact equivalent of Latin *cuius* 'whose' (Van Windekens, 1976:246). The Tocharian B genitive is more difficult. Its

basic form appears to be *ket*. The *-e* of *kete* is probably nothing more than the ordinary genitive ending of athematic nouns (i.e., *-os*). But the *ket* remains obscure. A PIE **kwos* plus some sort of particle (e.g., **tu*) would fit the bill phonologically but exact parallels are lacking.⁴

The relative pronouns are identical to the interrogative ones in Tocharian B. In Tocharian A they are identical to the interrogative pronouns too, only with the addition of the particle *-ne* (= B 'indeed'). One should note also the incipient distinction in Tocharian A between singular and plural in the relative pronoun with analogical plural *kūcene* in the nominative used beside singular/plural *kusne*.

6.3 INDEFINITE PRONOUNS. The two Tocharian languages show two very different formations for the indefinite pronoun, though the pronouns in the two languages share a similar syntax, coming after the noun or pronoun that they modify and being enclitic to it (see Table 76).

TABLE 76
TOCHARIAN INDEFINITE PRONOUNS

	TOCH. B	TOCH. A
Nominative	<i>ksa</i>	<i>sam</i>
Accusative	<i>kca</i>	<i>cam</i>
Genitive	<i>ket ra/ ketara</i>	<i>ke</i>

The nominative and accusative forms found in Tocharian A are, of course, merely one of the sets of demonstrative pronouns (see section 6.5), while the genitive is identical to the genitive of the interrogative/relative pronouns. Why the masculine should have been generalized to interrogative and relative functions while the feminine should have been specialized to this indefinite function, I do not know. The genitive in Tocharian B is the same as the interrogative/relative genitive with the addition of the particle *ra* which, at least in the by-form *ketara* (/ketārā/), has become fused with the preceding pronoun.

6.4 ADJECTIVAL INTERROGATIVE/RELATIVE PRONOUNS. Both languages show special pronouns for adjectival interrogative and relative uses. In Tocharian A there is a pronoun whose stem is *änts-* while in B we find both *ints-* (= A *änts-*) and *mäks-* (see Table 77).

TABLE 77
TOCHARIAN SPECIAL PRONOUNS FOR ADJECTIVAL
INTERROGATIVE AND RELATIVE USES

	TOCH. B Masc.	TOCH. A	
		Masc.	Fem.
SINGULAR: Nominative	<i>intsu</i>	<i>äntsam</i> (rel. <i>äntsanne</i>)	
Accusative	<i>iñcew</i>	<i>äñcam</i>	<i>äntām</i>
Genitive		<i>äñcanik</i>	
PLURAL: Nominative			
Accusative			
Genitive		<i>äñcesni</i>	

Despite the fewness of forms actually attested, it is clear that we have *än-* (*in-*) plus one of the ordinary demonstrative pronouns. The first element (also to be seen in Tocharian B *ente/inte* 'if?') remains completely mysterious.

A similar story is to be told about the alternate, and much more common, stem *mäks-* in Tocharian B (see Table 78). In this case we have the slightly disguised relative pronoun, *-ksu*, etc., which follows a format *mā-* without convincing etymological connections.

6.5 PRONOMINAL ADJECTIVES. Related to the interrogative/relative adjective is the intensive pronominal adjective B *makte*, A *mättak* 'ipse' (Table 79). The Tocharian B forms are based on a stem, *mākt-*, which is ultimately the same as that seen in the interrogative/relative adjective. In the intensive forms, however, are stressed on the first syllable and show the morphological influence of the regular adjectives. In Tocharian A this same stem has

TABLE 78
TOCHARIAN B ADJECTIVAL INTERROGATIVE *mäks-*

	MASC.	FEM.	NEUTER
SINGULAR: Nominative	<i>mäksu</i>	<i>mäksāṽ</i>	<i>māktu</i>
Accusative	<i>mākceṽ</i>	<i>māktāṽ</i>	<i>māktu</i>
Genitive	<i>mākcwi</i>		
PLURAL: Nominative	<i>mākcai</i>	<i>māktom</i>	
Accusative			
Genitive	<i>mākcenas</i>	<i>māktoynas</i>	

TABLE 79
TOCHARIAN INTENSIVE PRONOMINAL
ADJECTIVE B *makte*, A *mättak*

	MASCULINE	
	TOCH. B	TOCH. A
SINGULAR: Nominative	<i>makte</i>	<i>mättak</i>
Accusative	<i>makce</i>	<i>māccakāṽ</i>
Genitive	<i>mākcepi</i>	
PLURAL: Nominative	<i>makci</i>	<i>māccek</i>
Accusative	<i>mākceṽ</i>	<i>māckes</i>
Genitive	<i>mākceṽts</i>	

undergone metathesis and then been influenced by the paradigm of the following pronominal adjective, B *alyek*, A *ālak* 'other', shown in Table 80. Ultimately these paradigms are nothing more than Plt **alyo-* and **alo-*, regularly inflected, plus the intensifying particle *kā*

TABLE 79 (cont'd)

	FEMININE	
	TOCH. B	TOCH. A
SINGULAR: Nominative	<i>mākciya</i>	<i>māccāk</i>
Accusative	<i>mākciyai</i>	<i>māccāyām</i>
Genitive		<i>māccākye</i>
PLURAL: Nominative	<i>māktona</i>	<i>mātkont</i>
Accusative	<i>māktona</i>	<i>mātkont</i>
Genitive		

TABLE 80
TOCHARIAN INTENSIVE PRONOMINAL
ADJECTIVE B *alyek*, A *alak*

	MASCULINE	
	TOCH. B	TOCH. A
SINGULAR: Nominative	<i>alyek ~ allek</i>	<i>alak</i>
Accusative	<i>alyek ~ allek</i>	<i>ālyakām</i>
Genitive	<i>alyekēpi</i>	
PLURAL: Nominative	<i>alyaik</i>	<i>ālyek</i>
Accusative	<i>alyenākām</i>	<i>ālykes/ ālyekās</i>
Genitive	<i>alyenākāmts</i>	<i>ālu</i>

In some cases the forms with *-k* are taken as the stem and the regular case/ number desinences are then added again.

TABLE 80 (cont'd)

	FEMININE	
	TOCH. B	TOCH. A
SINGULAR: Nominative	<i>alyāk</i>	<i>ālyāk</i>
Accusative	<i>alyok/allok</i>	<i>ālyākyām</i>
Genitive		
PLURAL: Nominative	<i>alloñk/ alloñkna</i>	<i>ālkont</i>
Accusative	<i>alloñkna</i>	<i>ālkont</i>
Genitive		

6.6 DEICTIC PRONOUNS.

6.61 PROTO-INDO-EUROPEAN BACKGROUND. All of the Tocharian deictic pronouns are the descendants of the usual Proto-Indo-European pronominal stem **s-/t-* whose probable Proto-Indo-European paradigm would have looked as illustrated in Table 81.

TABLE 81
PIE PRONOMINAL STEM **s-/t-*

	MASC.	FEM.	NEUTER
SINGULAR: Nominative	<i>so</i>	<i>sā</i>	<i>tod</i>
Accusative	<i>tom</i>	<i>tām</i>	<i>tod</i>
Genitive	<i>teso</i>		
PLURAL: Nominative	<i>toy</i>	<i>tās</i>	<i>tā</i>
Accusative	<i>tons</i>	<i>tā(n)s</i>	<i>tā</i>

6.62 BASIC MORPHOLOGY OF THE TOCHARIAN DEICTIC PRONOUNS. In some ways Tocharian has treated this pronominal inheritance conservatively, most notably perhaps in the maintenance of the original distribution of the **s-* and **t-*. In other ways, however, this pronoun has been subject to a good deal of analogical remodeling, particularly on the basis of the *n*-stem adjectival declension with which it was syntactically so closely linked (see section 5.33). The Proto-Indo-European paradigm has left its most direct descendant, one without any following enclitic, in the paradigm of *se* 'this' in Tocharian B. (In the paradigm shown in Table 82 the "basic shape" of the Tocharian A deictic pronouns, i.e., with the enclitics peeled off, is given in brackets). Developments which are obviously late and

TABLE 82
TOCHARIAN B DEICTIC PRONOUN *se*

	MASC.	FEM.	NEUTER
SINGULAR: Nominative	<i>se</i> [sā-/sa-]	<i>sā</i> [sā-]	<i>te</i> [tā-/ta-]
Accusative	<i>ce</i> [ca-]	<i>tā</i> [tā-]	<i>te</i> [tā-/ta-]
Genitive	<i>cwi</i>	<i>tāy</i>	<i>tentse</i>
PLURAL: Nominative	<i>cey/cai</i> [ce-]	<i>toy</i> [to-]	
Accusative	<i>cem</i> [ces-]	<i>toy</i> [tos-]	
Genitive	<i>cemts</i>		

analogical and within Tocharian B itself are the masculine genitive plural and the neuter genitive singular. Also analogical, but much older since it also occurs in Tocharian A, is the palatalization of all of the masculine forms originally beginning with **t-*. This palatalization is modeled on that found in the masculine, outside the nominative singular, of the *n*-stem adjectives (e.g., Tocharian B [nom. sg.] *orotstse*, but [acc. sg.] *orocce*, and [pl.] *orocci*, *oroccem* [see sections 3.44 and 5.33]). In the feminine accusative singular we would expect the outcome of PIE **tām* to have been **to*. The *tā* that we find has its vowel, again as in the corresponding *n*-stem adjective, from the nominative.⁵

The *-o* which appears in the feminine plural is harder to account for. It may be from a Proto-Indo-European accusative plural **tān* or it may be the vowel of the Proto-Tocharian accusative singular **to*, before it was displaced by *tā*. In any event we have here an instance where Tocharian A preserves a more archaic situation than Tocharian B in that it does not show the final *-y* borrowed from the masculine nominative plural.⁶

6.63 TOCHARIAN B *sem*, A *sam*. In all other paradigms we find the basic deictic pronoun in combination with some other deictic element. As the first example of such combinations we can take Tocharian B *sem* [A *sam*] 'this one close by' which is etymologically PIE **so nu* (Table 83).

TABLE 83
TOCHARIAN B DEICTIC PRONOUN *sem*
IN COMBINATION WITH OTHER DEICTIC ELEMENTS

	MASC.	FEM.	NEUTER
SINGULAR: Nominative	<i>sem</i> [saṃ]	<i>sām</i> [sām]	<i>tem</i> [taṃ]
Accusative	<i>cem</i> [caṃ]	<i>tām</i> [tām]	<i>tem</i> [taṃ]
Genitive	<i>cwi</i> [cani]		<i>tentse</i> [tanis]
DUAL: Nominative	[tiṃ]		
Accusative	[tiṃ]		
Genitive	[tine]		
PLURAL: Nominative	<i>cey</i> [ceṃ]	<i>toyna</i> [toṃ*]	
Accusative	<i>ceyna/cenām</i> [cesām]	<i>toyna</i> [tosām]	
Genitive	<i>ceynaṃts</i> [cesni]	<i>toynaṃts</i>	

In synchronic terms the situation in Tocharian A is the easier to describe. There the enclitic element is added to the basic shape

the deictic pronoun in either its nominative or accusative shape. The genitive is made by adding the appropriate genitive ending to the accusative plus enclitic, e.g., *ca + n + i*. Obviously these genitives are formations internal to the history of Tocharian A. The picture presented by Tocharian B is less clear. In the singular we get the basic pronoun plus enclitic, just as we find in Tocharian A, but in the plural we find either no enclitic at all (i.e., *cey*), the basic pronoun plus enclitic as expected (i.e., *cenāp*), OR the nominative plural of the basic pronoun used as a stem plus the enclitic plus the pluralizer *-ā* (i.e., *ceyna* and *toyna*). This last alternative shows a remorphologization similar to that seen in the Tocharian A genitives. As might be expected, the Tocharian B plural genitives in this paradigm show the usual genitive plural ending added after the original enclitic as in Tocharian A. Noteworthy, too, is the fact that the masculine genitive singular shows no special form for this paradigm.

6.64 THE DEICTIC PRONOUNS B *su*, A *sām*. The paradigm for the weakest deictic pronoun, the one whose meaning most closely approximates that of the definite article in Western European languages, as shown in Table 84, is built on the same principle in both Tocharian A and B. In both cases we have the basic pronoun plus an enclitic element; Tocharian A has *-m* (from PIE **mu?*), while B has *-w* (from PIE **-u* [cf. Greek *ho-u-tos* 'this']).

The difference in vowel in Tocharian B between nominative singular *su* and accusative singular *cew* is, as van Brock pointed out (1977:85), the phonologically expected outcome of an unstressed PIE **so-w* versus a stressed **to(m)-u* (cf. Greek *ho* but *tón*).⁷ Tocharian A has extended this difference in vowel between the masculine nominative singular/neuter nominative-accusative singular on the one hand and the rest of the paradigm on the other to all deictic pronouns, with the exception of *sām* where only the etymologically stressed vowels appear. Tocharian B, however, retains the original distribution essentially undisturbed.

6.65 THE DUAL OF TOCHARIAN B *su*, A *sām*. The dual shows in Tocharian B the generalization of the stressed PIE **toy*, while in Tocharian A it is the descendant of the unstressed **toy*, which prevailed. The dual genitive in Tocharian B shows either an "infix" enclitic (the same one that is presumably to be seen in *tom*) or, perhaps more likely, the *-n-* of the *n*-stem adjectives. In either case the *-ais-* is the exact equivalent of the PIE **oysu(n)* which lies behind

TABLE 84
TOCHARIAN DEICTIC PRONOUNS B *su*, A *sām*

	MASC.	FEM.	NEUTER
SINGULAR: Nominative	<i>su</i> [sām]	<i>sāu</i> [sām]	<i>tu</i> [tām]
Accusative	<i>cew</i> [cam]	<i>tāu</i> [tām]	<i>tu</i> [tām]
Genitive	<i>cwi</i> [camī]	<i>tāy</i> [temī]	<i>tentse</i> [tmis]
DUAL: Nominative	<i>tai</i> [tim]		
Accusative	<i>tai</i> [tim]		
Genitive	<i>tainaisi/ tainasān</i> [time ⁷]		
PLURAL: Nominative	<i>cey</i> [cem]	<i>tom</i> [tom]	
Accusative	<i>cem</i> [cesām]	<i>tom</i> [tosām]	
Genitive	<i>cemts</i> [cesmi]	<i>tomts</i> [tosmāśśi]	

Greek *-oi(i)n* (Schwyzer, 1953:557). As Winter (1962b:126) rightly points out, this Greco-Tocharian agreement in the formation of the dual genitive is a striking shared isogloss. The final *-i* or *-ān* are merely the usual genitive endings of the pronouns added on to the inherited ending.

6.66 GENITIVE SINGULAR OF TOCHARIAN B *su*, A *sām*. In both languages the feminine singular shows the old form. Stripping off the late genitive ending *-i* and the "infix" enclitic *-m-*, we are left with the Tocharian A *te-*, which is the exact match of the Tocharian B *tā* PTch **tāy* (cf. Van Windekens, 1944:190 or 1979:266). This form may reflect a PIE genitive singular **tās* [: Greek *tēs*] with the added *-i* or, less probably, it could reflect directly a PIE dative singular **tēi* [: Greek *tēi*]. The masculine genitive singular seen in Tocharian B *cwi*, is also old. Once we remove the ubiquitous pronominal genitive ending *-i*, we are left with *cw-* or *cu-* which can be seen to be the

phonologically regular descendant of (unstressed) PIE **teso-u* (becoming **cāsāw* + **csāw* + *cu-* [cf. **swesēr* + **säser* + *ser* 'sister']). The spread of this "encliticized" genitive at the expense of one without any **-u* would be the result of a need to keep the genitive and accusative singulars distinct (a PIE **teso* would presumably have given **ce*). (For the phonology of the change, see sections 3.113 and 2.1.)

6.67 TOCHARIAN A *säs*. The other deictic pronouns present nothing new. The Tocharian A pronoun which is functionally equivalent to the Tocharian B *se* is *säs* (Table 85). The only problem with this

TABLE 85
TOCHARIAN A DEICTIC PRONOUN *säs*

	MASC.	FEM.	NEUTER
SINGULAR: Nominative	<i>säs</i>	<i>säs</i>	<i>täṣ</i>
Accusative	<i>caṣ</i>	<i>täṣ</i>	<i>täṣ</i>
Genitive	<i>caṣi</i>		<i>tṣis*</i>
PLURAL: Nominative	<i>ceṣ</i>	<i>toṣ</i>	
Accusative	<i>cesäs</i>	<i>tosäs</i>	
Genitive	<i>cessi</i>		

paradigm, from a historical point of view, is the etymology of the enclitic element. Like Van Windekens (1976:410), one is tempted to see it as somehow another descendant of the pronominal stem in **s-*. Perhaps we have PIE **se*. Winter points out (p.c.) that the unpalatalized *-s* can be accounted for by assuming a depalatalization triggered by a preceding *-s-*.

6.68 TOCHARIAN B *samp*. A similar problem is presented by the Tocharian B paradigm of *samp* 'that' (Table 86), which has no formal or functional equivalent in Tocharian A. Lane (1961) has identified the

TABLE 86
TOCHARIAN B DEICTIC PRONOUN *samp*

	MASC.	FEM.	NEUTER
SINGULAR: Nominative	<i>sam(p)</i>	<i>somp</i>	<i>tamp</i>
Accusative	<i>com(p)</i>	<i>tomp</i>	<i>tamp</i>
Genitive	<i>cwim(p)</i>		
PLURAL: Nominative	<i>ceym(p)</i>	<i>toym</i>	
Accusative	<i>ceym(p)*</i>	<i>toym</i>	
Genitive	<i>cempamts</i>	<i>toympamts</i>	

-m(p) with the Tocharian B adverb *om(p)* 'there' and in this he is followed by Van Windekens. Certainly the semantics are suitable but the phonology does need some more explaining, since the various vowel contractions one must allow for in this case are not always paralleled elsewhere in internal or external sandhi.

NOTES

1. The first *-ā- here is a svarabhakti vowel. See section 3.19.
2. There is no need to see here (as Winter, 1965:203) anything but the analogical spread of palatalization – there is certainly no warrant to assume an initial PIE *E-.
3. Following a suggestion of Schindler's (1967), Van Windekens assumes that it is the relative pronouns *-kwis and *-kwā (amended [1979:263] to *-kwim and *-kwām) which are the particles involved in Tocharian B *ñās* and A *ñuk*, but the syntax involved would seem to me to make this explanation impossible.
4. Van Windekens' suggestion (1976:246) that it is a borrowing from an unattested Tocharian A **ket* may be safely put aside.
5. Preserving the older situation (as, of course, do certain archaic feminine nouns like B *śana* 'wife', accusative singular *śano*) is the pronominal adjective (Tocharian B) *alyek/allek* 'other' with a feminine nominative singular *alyāk*, accusative singular *allok/alyok* (see section 6.5).
6. A form without the -y is also preserved in Tocharian B, in the paradigm of another deictic pronoun, as *tom*, though here we find the added enclitic element -n.
7. Unlike Greek, where the neuter singular is stressed (*tó*), Tocharian B seems to point to an unstressed PIE **to(d)-u*. One should note too that, for the vowels to show the way they do in Tocharian, the loss of final -d in the neuter singular must be very early.

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