

EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT

TOCHARIAN*

(*but were afraid to ask)

by Mark Dickens

INTRODUCTION

Tocharian is an extinct Indo-European language which stands by itself as one of the eleven major groups in the IE¹ language family. It was not discovered until the turn of this century, as a result of archaeological expeditions to Chinese Turkestan. What are some of the characteristics of Tocharian and what impact has it made on our knowledge of IE languages in general? This paper seeks to answer these questions.

DISCOVERY

Chinese Turkestan, today known as the Xinjiang Uyghur Autonomous Region in the People's Republic of China, was the goal of numerous archaeological expeditions in the late nineteenth and early twentieth centuries. The area consists primarily of a vast arid expanse known as the Tarim Basin, bounded by mountains on three sides which separate it from the adjacent areas of Tibet, India, Afghanistan, and what is today Soviet Central Asia. The Taklamakan desert covers most of the basin, and settlements have sprung up around the oases that are scattered throughout the area. Over the centuries, a number of sophisticated urban civilizations have sprung up in the area. The inhabitants were originally animistic and shamanistic. Later on, Buddhism and Nestorian Christianity penetrated the area. Starting with the Arab invasions of Central Asia in the eighth century, the population gradually converted to Islam, which remains today as the dominant religion in the area. Although the vast majority of the indigenous inhabitants today are Turkic, there were significant numbers of Indo-European peoples in the area prior to the second millennium of our era.

Near many of the present-day cities in the area are the ruins of ancient settlements, many of them Buddhist monasteries. The dry climatic conditions have resulted in the preservation of a large number of historical documents that were stored there in earlier times. Beginning in the 1890s and increasingly so in the first decade of this century, European explorers such as the Hungarian Marc Aurel Stein began to bring back a large number of these documents to the museums of Europe. Included in these finds were works written in Chinese, Tibetan, and numerous other languages. Two of these languages, previously unknown, proved to be related to each other. In

¹ For simplicity, Indo-European will be abbreviated as IE throughout this paper.

fact, they were close enough to be considered to be two dialects of an earlier common language. Most of the manuscripts containing them were written in the Brahmi script, a north Indian syllabary, on palm leaves, Chinese paper, and wooden tablets. It soon became apparent that a large proportion of the manuscripts were translations of known Buddhist works in Sanskrit and some of them were even bilingual, thus making the decipherment of the new language much easier. The bulk of the texts were dated from the seventh and eighth centuries. Besides the religious texts, there were also monastery correspondence and accounts, commercial documents, caravan permits, and medical and magical texts.

Linguistic analysis of the language by European linguists showed that the newly discovered language was Indo-European, although it seemed to bear little resemblance to the other known IE branches, especially the geographically close Iranian branch. As with any new find, a label was needed to identify the language. On the basis of references in Old Turkic manuscripts to the speakers of this language as the "Twghry,"² these people were identified as the Tocharoi, a tribe mentioned in classical Greek writings as having lived in Bactria (eastern Iran and Afghanistan) in the second century AD. Thus, the language was called Tocharian,³ its two dialects being designated as **A** and **B**. Dialect **A** was represented in manuscripts coming from around the towns of Qarashahr and Turfan, located in the eastern part of the Tarim basin. Therefore, it is commonly referred to as Turfanian or East Tocharian. Dialect **B** is sometimes called Kuchean or West Tocharian, due to the fact that most manuscripts containing it were found near the town of Kucha, further to the west.

Whether or not the speakers of these dialects were truly the Tocharoi is open to debate. "It is now generally held that the speakers of Tocharian were part of a very early migration from the central Indo-European area, possibly as early as 2000 BC. But, as is often the case in such matters, our evidence is fragmentary and our conjectures are highly tenuous."⁴ Although we don't know when the "Tocharians" arrived in Central Asia it seems that their culture lasted up until the end of the first millennium of our era, after which time they were either assimilated into the growing Turkic population in the area or simply died out. However, during their time in Central Asia, they played a key role in propagating Buddhism amongst the Turks and it may also have been via the Tocharians that Buddhism spread from India into China proper. Attempts to positively identify the Tocharians have thus far proved unsuccessful. However, the name of the language stuck and has survived to this day in the literature on the subject.

² Pronounced /toxri/.

³ Although it is customarily pronounced /tokarian/ by English speakers, a more correct pronunciation is /toxarian/.

⁴ Baldi, *Introduction*, 142.

PHONOLOGY

Before considering the implications that the discovery of Tocharian had for IE studies, we will briefly overview some salient features of the language, noting relationships to Proto-Indo-European and other IE languages as they arise. We begin with Tocharian phonology. The vowel systems of the two dialects are basically identical:⁵ *ä*,⁶ *a*, *e*, *o*, *i*, and *u*.⁷ Although the scripts indicate a distinction between long and short *i* and *u* also, this "seems to be more a matter of scribal whim than an indication of an actual distinction of quantity."⁸ A reconstruction of Proto-Tocharian gives virtually the same system, with Tocharian *e* having its origin in Proto-Tocharian *æ*.⁹ However, despite their similarities in **A** and **B**, it is "possible to derive the vowel system of each dialect by a different route from the Proto-Tocharian system, so accounting for the fact that despite a common starting-point in Indo-European and a common system as end-product, the correspondences will not allow one to assume a common development after the Proto-Tocharian stage."¹⁰

In both **A** and **B**, vowels in certain contexts may be nasalized. In addition, **B** has inherited two diphthongs from PIE,¹¹ namely *ai* (<*oi, *ai) and *au* (<*ou, *au), which were subsequently monophthongized in **A** to *e* and *o*, respectively.¹² There are relics of the old PIE system of ablaut, with internal vowel changes in different verb forms. Two examples of this from **A** are *pikäs*¹³ 'writes' vs. *pekat* 'wrote' and *lutkäs* 'lets become' vs. *lotäk* 'became'.¹⁴ There were also three types of umlaut in Proto-Tocharian which affected **A** and **B**: "1) Mutual Rounding whereby a Proto-Tocharian configuration of *Ca(C)Ce- gave Proto-Tocharian *Co(C)Co... 2) Rounded Vowel Umlaut (RVU) whereby certain vowels are rounded when followed in the next syllable by a rounded vowel... and 3) *a*-umlaut whereby a PTch *-a-* affected at least some PTch *e's and *e's in the preceding syllables."¹⁵

As far as Tocharian consonants are concerned, two facts are noteworthy. First, the three series of PIE stops (voiceless, voiced and aspirated voiced) have been

⁵ Source: Penney, "Vowels," 68. The symbols used are those used in the literature on Tocharian.

⁶ This is a high central vowel of undetermined quality which is usually derived from the Proto-Indo-European second laryngeal, H₂; for a more extensive discussion of what happened to the PIE laryngeals in Tocharian, see Winter, "Evidence."

⁷ The semivowels *w* and *y* are grouped under the consonants below.

⁸ Penney, "Vowels," 68.

⁹ Penney, "Vowels," 84; for a detailed discussion of the PIE origins of the Tocharian vowel system, see this article.

¹⁰ Penney, "Vowels," 85.

¹¹ Proto-Indo-European will be referred to as PIE throughout this paper.

¹² Penney, "Vowels," 84; Lane, "Problems," 5ff.

¹³ The symbol *s* represents a palatal *s*.

¹⁴ Baldi, *Introduction*, 146; for a more detailed discussion of ablaut in Tocharian, see Adams "Ablaut."

¹⁵ Adams, "Ablaut," 448.

collapsed into one voiceless series: *p*, *t*, and *k*.¹⁶ Second, palatal consonants are prevalent in the language. As Werner Winter, an authority on Tocharian, explains, "the relatively simple consonantal system of Proto-Tocharian subsequently became complicated again by the phonemicization of the difference between palatalized and unpalatalized variants of the consonants, variants that were originally predictable in terms of the following vowel phonemes."¹⁷ In both **A** and **B**, there are non-palatalized and palatalized versions of *s*, *n*, and *l*. In addition, **B** has a palatalized *p*, *k*, and *m*. Other consonants in both dialects include *c*¹⁸ (which can be considered as a palatal version of *t*), *m*, *n*,¹⁹ *r*, *w*, and *y*. **A** also has *ts*. The placement of accent in Tocharian is quite complicated and not fully understood, although it has been postulated that accent in Proto-Tocharian was originally on the penult.²⁰

MORPHOLOGY AND SYNTAX

Tocharian maintains the PIE grammatical gender system of masculine, feminine, and neutral with nouns, pronouns, and adjectives (although the neutral is absent in the case of adjectives). To the PIE number categories of singular, plural, and dual the language has, according to some scholars, added *paral* (used to mark a naturally occurring pair) and possibly *plurative* (used to mark a noun belonging to more than one person). The following example from **B** illustrates the occurrence of the so-called *paral*: *okso* 'ox,' *par. oksaine* 'yoke of oxen,' *pl. oksain*.²¹ However, as a result of re-examining the data for nominals and pronominals, Winter maintains that "there is no need to operate with a contrast of dual and 'paral' in Tocharian. As we cannot consider the 'plurative' an established inflectional category either, the numerus system of Tocharian remains a highly conservative representative of the normal Indo-European system."²² Nouns are classified as either *thematic* (ending in a vowel) or *athematic* (ending in a consonant) and there must be agreement with the modifiers.

The case system in Tocharian is rather complex. In both **A** and **B**, there are three primary cases inherited from PIE: *nominative*, *genitive*, and *oblique* (the latter functioning as the *accusative*). Dialect **B** also has a *vocative* case. To the *oblique* case are suffixed *postpositions* to form the secondary cases: *instrumental*, *perlative*,²³

¹⁶ For a discussion of the related issue of the fate of the PIE labiovelars (*k^w*, *g^w*, *g^{wh}*) in Tocharian, see Lane, "Labiovelars."

¹⁷ Winter, "Proto-Indo-European," 3; for a discussion of the origins of the Tocharian palatal consonants, see Lane, "Palatalization."

¹⁸ This symbol represents a voiceless palatal stop.

¹⁹ This symbol represents a velar nasal.

²⁰ For a detailed discussion of this issue, see Bonfante, "Accent."

²¹ Lockwood, *Panorama*, 255.

²² Winter, "Dual," 134.

²³ The *perlative* case signifies the means of transportation.

comitative,²⁴ allative,²⁵ ablative, locative, and causal. This elaborate and easily analyzable secondary case system (the endings are uniform for all genders and numbers) has a strong syntactic function in the language and possibly reflects the influence of the Turkic languages, which also make heavy use of suffixes and which were on the ascendency in Central Asia during the period from which the Tocharian documents date.

There are three basic verb tenses in both **A** and **B**: present, imperfect, and preterit (past), with **B** adding an intensive preterit. The preterit form appears to come from the PIE perfect.²⁶ Periphrastic tenses are formed by the addition of other elements, such as participles. Tocharian verbs preserve the PIE distinction between active and mediopassive voice. In the present tense, the mediopassive ending is *-r*, thought to be "a phenomenon of survival of an archaic feature once shared by the entire Indo-European group,"²⁷ a feature which was only retained in Celtic, Italic, and Tocharian. Thus, for example, **A** *klyostär* 'is heard'.²⁸ There are four moods: indicative, subjunctive-future, optative, and imperative.²⁹ Tocharian verbs are conjugated in both the singular and the plural, and very rarely, the dual.

Tocharian is an SOV language. However, the nature of the texts upon which we base our current knowledge of Tocharian presents some problems in attempting to restructure the syntax of the language. One problem is that, since much of the material is comprised of translations from Sanskrit, we do not know when features of this language have intruded into the translation. Perhaps more potentially misleading is the fact that "much of our material is in metrical form, which means that before we can draw any conclusions, say, on word order we have to eliminate all distortions that have been introduced to make the text fit the requirements of the meter."³⁰

LEXICON

Although the number of lexical items in Tocharian that are clear reflexes of the original PIE lexicon is not great, there are some obvious ones. The following are some examples:

A *tre*, **B** *traï* 'three': **trei-*

A *stwar*,³¹ **B** *stwer* 'four': **k^wetwor-*

A *pāñ*,³² **B** *pis* 'five': **penk^we*

²⁴ The comitative case expresses accompaniment.

²⁵ The allative case denotes motion to or toward.

²⁶ Winter, "Proto-Indo-European," 9; for a detailed discussion of the PIE origins of the various Tocharian verbal forms, see Adams, "Verbal System"; Lane, "Imperfect."

²⁷ Winter, "Proto-Indo-European," 10.

²⁸ Lane, *Encyclopaedia*, 685.

²⁹ Lane, "Imperfect," 44.

³⁰ Winter, "Proto-Indo-European," 7.

³¹ The symbol *s* represents a palatal sibilant of unknown quality.

A *okät*, **B** *okt* 'eight': **okto*
AB *ñu* 'nine': **newn*
A *känt*, **B** *kante* '100': **kmtom*
AB *tu* 'thou': **tu-*
A *säm*,³³ **B** *sana* 'woman': **g^wena*
A *pacar*, **B** *pacer* 'father': **pater*
A *macar*, **B** *macer* 'mother': **mater-*
A *pracar*, **B** *procer* 'brother': **b^hrater-*
A *ckacar*, **B** *tkacer* 'daughter': **d^hug^hater-*
A *ak*, **B** *ek* 'eye': **ok^w-*
A *wak*, **B** *wek* 'voice': **wek^w-/ *wok^w-*
A *ko*, **B** *ke^u* 'ox, cow': **g^wou-*
A *yuk*, **B** *yakwe* 'horse': **ekwos*
AB *ku* 'dog': **kwon-*
A *pält*, **B** *pilta* 'leaf': **b^hel-*
A *kukäl*, **B** *kokale* 'wagon, chariot': **k^wel-/ *k^wol-*
A *por*, **B** *puwar* 'fire': **pur-*
A *rtär*, **B** *ratre* 'red': **reud^h-*
AB *käm-* 'come': **g^wem-*
AB *päk-* 'cook, ripen': **pek^w-/ *pok^w-*³⁴

However, the etymologies of a large percentage of the lexicon are uncertain. This is not surprising when we consider the late date of the extant documents and the relative isolation of Tocharian from other IE languages. Winter summarizes the problem of coming up with reliable etymologies for many Tocharian words: "There is first a hard core of good and generally accepted etymologies. They generally constitute material that is well known from a great many Indo-European languages.... Apart from this core vocabulary, there is a vast array of insufficiently understood material."³⁵ As far as loan words are concerned, the lexicon does show the influence of other IE languages, chiefly Sanskrit and Iranian (especially religious and technical terms - it should be noted that these are predominantly late loans, the result of Buddhist missionary activity in the area), and to a lesser degree, some non-IE languages, including Tibetan, Chinese, and Uighur.³⁶ As an example of the borrowing

³² The symbol ñ represents a palatal nasal.

³³ The symbol m indicates that the preceding vowel is nasalized.

³⁴ Sources: Georgiev, *Introduction*, 284; Lane, "Labiovelars," 72f; Lane, *Encyclopaedia*, 685; Lockwood, *Panorama*, 256f.

³⁵ Winter, "Proto-Indo-European," 6.

³⁶ Baldi, *Introduction*, 143.

process possibly working the other way, Winter even proposes that the Turkic word for 'sun, day,' *kün*, may be derived from the Tocharian word *kom* (**A**), *kaum* (**B**).³⁷

As noted above, the nature of the Tocharian documents that we have currently available to us is a source of problems in the area of syntax. This is also true of our attempts to reconstruct the Tocharian lexicon. One of the major difficulties is that the semantic domains are very limited: "Our texts, religious, philosophical, didactic in nature fail to give us a good cross-section of the core vocabulary of the Tocharian language... What we have at our disposal are essentially vocabulary items that occurred in Buddhist writings of the day."³⁸

RELATIONSHIP BETWEEN THE DIALECTS

There are some linguists who maintain that the two forms of Tocharian are too far apart to be considered dialects and should properly be considered separate languages, albeit descended from a common mother language, usually referred to as Common Tocharian. In fact, on the basis of phonological analysis of Tocharian **B** texts, Winter has identified what he considers to be three different "dialectal units" within **B**, a Central, Western, and Eastern dialect, with the first of these being the prestige dialect.³⁹ "The more one observes the similarities between the two dialects [A and B] the more forcibly one is struck by their sharp divergences."⁴⁰ There are a number of phonological differences between the two, especially in the vowels. For example, *a*, *e*, and *o* in **A** appear in **B** as, respectively, *e*, *ai*, and *au*.⁴¹ Thus, 'eye' is *ak* in **A**, *ek* in **B**; 'three' is *tre* in **A**, *trai* in **B**; and 'ear' is *klots* in **A**, *klautso* in **B**.⁴² Furthermore, final vowels are subject to apocope in **A**, whereas they are not in **B**: 'tooth' is *kam* in **A**, *keme* in **B**.⁴³ These phonological differences are probably linked to the differing accent positions in the two dialects.⁴⁴ There are also a number of other areas where the sound systems diverge.⁴⁵

However, it is "in morphology that the two dialects go most widely asunder,"⁴⁶ particularly in plural markers,⁴⁷ the case system, and the verbal system. There is a

³⁷ Winter, "Turks," 245ff.

³⁸ Winter, "Proto-Indo-European," 6.

³⁹ Winter, "Linguistic Classification," 224f.

⁴⁰ Lane, "Dialects," 213.

⁴¹ However, Lane ("Problems," 11ff) points out that **B** *e* actually corresponds to three vowels in **A**: *a*, *o*, and *e*. A similar situation occurs with **B** *o*, which corresponds with **A** *o* and sometimes *a*. For a proposal of the Common Tocharian vowels from which this situation in **A** and **B** arose, see Reitz, "Mid Vowels."

⁴² Baldi, *Introduction*, 143.

⁴³ Baldi, *Introduction*, 143.

⁴⁴ Lane, "Dialects," 214.

⁴⁵ For further examples, see Lane, "Dialects," 214f.

⁴⁶ Lane, "Dialects," 215.

⁴⁷ For examples, see Lane, "Dialects," 215f.

"radical divergence" in the genitive case and in the secondary cases.⁴⁸ As George Lane, an authority on Tocharian, comments, "Everywhere we find either the same grammatical function served by morphemes of entirely different phonetic shapes and of different formal origins, or else formal elements the same in origin but serving different grammatical functions."⁴⁹ Less surprising is the fact that the pronouns in the two dialects are quite different from each other, since this part of speech is especially susceptible to differentiation among related languages.

When we look at the lexicons of the two dialects, we see further differences. Of significance are the differences between various Buddhist terms in the two, differences which "show the independence of the two languages at the time of the earliest translation of Buddhistic works, and therefore, it would seem, the independence of the activities of the Buddhist missions to the two peoples."⁵⁰ As far as lexical interchange between the two dialects, Winter, in a study of the subject, concludes: "Rather numerous borrowings from **B** have been shown to occur in our somewhat limited **A** materials. Of the various form classes, nouns, nominals, and particles are represented; no verb was found to be a loanword.... On the other hand, loans from **A** in **B** are few."⁵¹ Furthermore, the fact that words have been borrowed from **B** into **A** without appropriate phonological changes being made "is strongly suggestive of more considerable differences than is normally indicated by the word 'dialect'."⁵²

These facts and others, including the orthographic regularity of **A** versus the irregularity of **B**, have led Lane to conclude that "at the time when the extant materials in dialect **A** were written it was purely a liturgical language in the monasteries of the east, and had been so preserved for several centuries at least.... it had long since ceased to be a vernacular [as a result of Turkic immigration into the area]... whereas Tocharian **B** was clearly the vernacular of a comparatively rich and flourishing culture [to the west and better protected by the mountains and the desert from the influence of the Turks]."⁵³ It is very likely that **B** was also the language of everyday monastery life in the east, existing side by side with the liturgical form of **A**.⁵⁴ Lane concludes: "the two Tocharian dialects **A** and **B** have gone through a long period of independent development... anywhere from five hundred to a thousand years... they are, in my estimation, no longer mutually intelligible."⁵⁵

⁴⁸ For examples, see Lane, "Dialects," 216f.

⁴⁹ Lane, "Imperfect," 44.

⁵⁰ Lane, "Dialects," 221; for a list of basic terms which differ in the two dialects, see 221-223.

⁵¹ Winter, "Lexical Interchange," 280.

⁵² Baldi, *Introduction*, 144.

⁵³ Lane, "Dialects," 226f.

⁵⁴ Lane, "Dialects," 228f.

⁵⁵ Lane, "Dialects," 232.

THE INDO-EUROPEAN CONTEXT

So where does Tocharian fit into the IE language family? We might begin by attempting to reconstruct the origin of the Tocharians. Scholars who studied the documents in the early part of this century attempted to link the language with a number of other IE branches, pointing out similarities, some actual and some supposed, with Armenian, Thracian, Phrygian, Celtic, and Hittite.⁵⁶ From this initial analysis of the material, we have been able to get a rough idea of where the Tocharians came from and how they got where they are today. In the opinion of Lane, the original home of the Proto-Tocharians was somewhere on the steppes of southern Russia. "They were thus bordered on the west and south by the Thraco-Phrygians, the Armenians and the Greeks; on the west and north by the Germans and the Balto-Slavs, in close proximity to the Finno-Ugrians on the east and north."⁵⁷ Based on the similarities between Tocharian and the Italic and Celtic branches, especially the mediopassive in *-r* and the subjunctive in *-a*, he postulates "rather a long period of close contact [between these different IE branches] after the separation of Tocharian from the nearest of kin, Thraco-Phrygian (and perhaps Armenian)."⁵⁸ However, this does not mean that Tocharian may not have had contact with other IE languages at this time also. Douglas Adams, noting the similar role of PIE *n*-stems in nouns and adjectives in both Proto-Germanic and Proto-Tocharian, concludes that "both Germanic and Tocharian belonged to a group of Indo-European dialects, including also Latin and Greek, where *n*-stems came to be productive as 'singulatives' of definites, often with affective meaning, in opposition to other nominal types."⁵⁹

As the Tocharians began to move east, the last contacts that they had with other Indo-Europeans (before their much later interaction with the Indians and Iranians) was with the Slavs, resulting in some Slavic influence in the lexicon, but no impact on the essential structure of the language.⁶⁰ However, an alternative analysis by a Slavic linguist, who cites phonological, morphological, and lexical similarities between Tocharian and Balto-Slavic, is that "at some very remote time, the ancestors of the Germanic tribes, the Balto-Slavs, and the Tocharians formed a Northern IE dialect group which split from the common IE at a very early stage and later

⁵⁶ Lane, "Relationships," 74ff; Georgiev, *Introduction*, 281; for an early example of the attempt to link Tocharian and Hittite, see Petersen, "Hittite."

⁵⁷ Lane, "Relationships," 76.

⁵⁸ Lane, "Relationships," 78.

⁵⁹ Adams, "*n*-Stems," 439.

⁶⁰ Lane, "Relationships," 79.

(probably during the 4th millennium B.C.) dissolved into Germanic-Balto-Slavic and Tocharian."⁶¹

After they left the Indo-European homeland, the Tocharians may have been influenced by the Finno-Ugric languages. Two features that are assumed for Proto-Finno-Ugric, namely a "poverty in the system of oral stops" and "an extensive series of affricates and sibilants" may have influenced Proto-Tocharian, resulting in the reduction of the PIE stop system to *p*, *t*, and *k*, and the extensive palatalization in the language.⁶² Lane also points to dvandva-type compounds⁶³ in Tocharian which are similar to those in certain Uralic languages. For example, Toch. A *ak-mal* 'face,' lit. 'eye (and) nose' cf. Hung. *orcza* 'cheek' from *orr* 'nose' and *szaj* 'mouth'.⁶⁴ However, "the lack of probable lexical interchange between Tocharian and Finno-Ugric... is a serious drawback to this hypothesis."⁶⁵ As noted above, the most recent linguistic influences upon Tocharian were Iranian and Sanskrit, as a result of the missionaries from Iran and India who brought Buddhism to the Tocharians. The primary effect of these languages upon Tocharian was in loan words into the lexicon, especially in religious terminology.

What impact did the Tocharian documents have upon IE studies? Obviously, the discovery of a hitherto unknown IE language promised to give linguists access to valuable new information about the whole language family. However, much of the information that was gleaned from analysis of the language ended up having a "negative" effect, in that the data upset a number of neat and convenient isoglosses that linguists studying IE languages had come up with. For example, prior to the discovery of Tocharian, the occurrence of *-r* as a marker of the mediopassive form of the verb was only substantiated in the Celtic and Italic branches of the IE language family. The fact that these two groups are relatively geographically close to each other helped to explain how this could have come about. However, Tocharian, lying far to the east, also has this feature.⁶⁶

An even more significant implication of the discovery of Tocharian was the effect it had on the *centum-satem* division that linguists had devised by observing the reflexes of the PIE velars. Before the evidence of Tocharian came to light, the IE languages could be neatly divided into two groups: those in the west which had velar reflexes (*centum* languages) and those in the east which had sibilant reflexes (*satem*

⁶¹ Georgiev, *Introduction*, 297; for his discussion of linguistic similarities between the two groups, see 281-297.

⁶² Lane, "Relationships," 79f.

⁶³ Dvandva compounds are "a class of compound words having two immediate constituents that are equal in rank and related to each other as if joined by *and* (eg. *bittersweet*, *sociopolitical*)" (Webster's Third New International Dictionary).

⁶⁴ Lane, "Relationships," 80f.

⁶⁵ Lane, "Relationships," 84.

⁶⁶ Baldi, *Introduction*, 144.

languages). However, Tocharian threw that distinction out since, although it lay further to the east than any other IE language, it was *centum*, the word for 100 being *känt* in **A** and *kante* in **B**.⁶⁷ "Thus, the overall impact of Tocharian has been essentially negative in that it has provided evidence against hypotheses concerning Proto-Indo-European made before its discovery."⁶⁸ Lane points out that this has resulted in the need for "our 'late 19th century' conception of the IE parent language... to be radically changed in several aspects, and nowhere more radically than in the instance of the verb. For our conception of the verbal categories has been based entirely upon agreements between Greek and Indic."⁶⁹

Apart from these disruptive effects that the discovery of Tocharian had on previous IE theories, what have we learned from it that has contributed to a better understanding of the IE language family and the place that Tocharian occupies in that family? We have noted above a number of features in Tocharian which are reflexes of PIE. We observe in Tocharian the preservation of aspects of the PIE diphthong system, ablaut system, grammatical gender system, number categories, case system, and the distinction between active and mediopassive in the verb system. In addition, there is a lexical core of words which can be easily traced back to PIE. At the same time, we note a significantly diminished system of stops, extensive palatalization, the secondary case system, and lexical borrowings from other language families, all of which suggest to one degree or other the influence of non-IE languages, especially Turkic and possibly Finno-Ugric languages, as noted above. In general, therefore, the Tocharian evidence, due to the rather late date of the extant documents, its geographic isolation from other IE languages, and the influence of non-IE languages, has not been as helpful in reconstructing PIE as, for instance Sanskrit, Greek, or Hittite have been. However, we *can* learn from Tocharian about the effect that a long migration and contacts with members of other language families can have on an IE language and, as Winter says, "below the rather forbidding surface of our Tocharian data there are some real treasures to be found."⁷⁰

⁶⁷ Lane, *Encyclopaedia*, 685; however, Lane ("Labiovelars," 79) points out that the way Tocharian treats original labiovelars is characteristic of *satem* languages.

⁶⁸ Baldi, *Introduction*, 145f.

⁶⁹ Lane, "Significance," 85.

⁷⁰ Winter, "Proto-Indo-European," 11.

BIBLIOGRAPHY

- Adams, Douglas Q. "Ablaut and Umlaut in the Tocharian Vowel System," *Journal of the American Oriental Society* 98 (1978), 446-450.
- Adams, Douglas Q. "On the Development of the Tocharian Verbal System," *Journal of the American Oriental Society* 98 (1978), 277-288.
- Adams, Douglas Q. "Towards a History of PIE *n*-Stems in Tocharian," *Journal of the American Oriental Society* 100 (1980), 439-443.
- Baldi, Philip. *An Introduction to the Indo-European Languages*. Carbondale: Southern Illinois University Press, 1983.
- Bonfante, Giuliano. "The Tocharian Accent (A and B)," *Journal of Indo-European Studies*. 14 (1986), 301-333.
- Georgiev, Vladimir I. *Introduction to the History of the Indo-European Languages*. Sofia: Publishing House of the Bulgarian Academy of Sciences, 1981.
- Lane, George S. "Problems of Tocharian Phonology," in *Studies in Historical Linguistics in Honor of George Sherman Lane*, ed. by Walter W. Arndt et al. Chapel Hill: University of North Carolina Press, 1967 (article orig. publ. in 1938).
- Lane, George S. "The Tocharian Palatalization," in *Studies in Historical Linguistics in Honor of George Sherman Lane*, ed. by Walter W. Arndt et al. Chapel Hill: University of North Carolina Press, 1967 (article orig. publ. in 1945).
- Lane, George S. "Imperfect and Preterit in Tocharian," in *Studies in Historical Linguistics in Honor of George Sherman Lane*, ed. by Walter W. Arndt et al. Chapel Hill: University of North Carolina Press, 1967 (article orig. publ. in 1953).
- Lane, George S. "The Indo-European Labiovelars in Tocharian," in *Indogermanica: Festschrift für Wolfgang Krause*, ed. by Hans Hartman and Hans Neumann. Heidelberg: Carl Winter, 1960.

- Lane, George S. "On the Significance of Tocharian for Indo-European Linguistics," in *Studies in Historical Linguistics in Honor of George Sherman Lane*, ed. by Walter W. Arndt et al. Chapel Hill: University of North Carolina Press, 1967 (article orig. publ. in 1964).
- Lane, George S. "On the Interrelationship of the Tocharian Dialects," in *Ancient Indo-European Dialects*, ed. by Henrik Birnbaum and Jaan Puhvel. Berkeley: University of California Press, 1966.
- Lane, George S. "Tocharian: Indo-European and Non-Indo-European Relationships," in *Indo-European and Indo-Europeans*, ed. by George Cardona, Henry Hoeningwald and Alfred Senn. Philadelphia: University of Pennsylvania Press, 1970.
- Lane, George S. "Tocharian Language," in *The New Encyclopaedia Britannica*, 15th ed. (1989), Vol. 22, 684-685.
- Lockwood, W.B. *A Panorama of Indo-European Languages*. London; Hutchinson University, 1972.
- Penney, J.H.W. "The Treatment of Indo-European Vowels in Tocharian," *Transactions of the Philological Society* 1976-77: 66-91.
- Petersen, Walter. "Hittite and Tocharian," *Language* 11 (1933), 12-34.
- Reitz, Thomas G. "The Correspondences Among the Mid Vowels of Tocharian," in *Studies in Historical Linguistics in Honor of George Sherman Lane*, ed. by Walter W. Arndt et al. Chapel Hill: University of North Carolina Press, 1967.
- Winter, Werner. "A Linguistic Classification of 'Tocharian' B Texts," *Journal of the American Oriental Society* 75 (1955), 216-225.
- Winter, Werner. "Lexical Interchange Between 'Tocharian' A and B," *Journal of the American Oriental Society* 81 (1961), 271-280.
- Winter, Werner. "Nominal and Pronominal Dual in Tocharian," *Language* 38 (1962), 111-134.

Winter, Werner. "Tocharians and Turks," in *Aspects of Altaic Civilization*, ed. by Denis Sinor. Bloomington: Indiana University, 1963.

Winter, Werner. "Tocharian Evidence," in *Evidence for Laryngeals*, ed. by Werner Winter. The Hague: Mouton, 1965.

Winter, Werner. "Tocharian and Proto-Indo-European," *Lingua Posnaniensis* 25 (1982), 1-11.