Turkic and Chinese loan words in Tocharian

ALEXANDER LUBOTSKY and SERGEI STAROSTIN

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Fourty years ago, in 1963, Werner Winter wrote: "... it clearly becomes essential to raise the question whether non-Buddhist linguistic borrowing occurred between Turkish and Tocharian." He planned a separate treatment of the problem of loan words from Turkic in Tocharian, but this project has never been realized. Recently, the Tocharo-Turkic connections were discussed by G.-J. Pinault on two occasions (1998, 2001a), but the issue of possible Tocharian borrowing from Turkic was left untouched. Some linguists even consider such borrowing as intrinsically improbable, especially in prehistoric times (cf. Adams 1999: 211: "To have given both A kom and B kaum, the borrowing would have had to have been of PTch in date. So early a date might itself rule out the Turks on geographical grounds").

In the following we would like to reopen the discussion by presenting a list of possible Tocharian loan words form Turkic. The Turkic and Altaic reconstructions below are given on the basis of the forthcoming etymological dictionary of the Altaic languages by S. Starostin and his colleagues.

1. Toch. A kom, Toch. B kaum 'sun, day' < PToch. *kaun(V) - :: Proto-Turkic *gü(n)el / *gunał (OYgh. kün 'sun, day', Turk. gü'n 'id.', etc.) < Proto-Altaic *giö̈̈̄nú 'dawn, daylight' (Proto-Mongolian *gegeye 'dawn, daylight' < *geye < *gej-, Proto-Tungusic *gian’am ‘dawn’, Proto-Korean *kuí ‘dawn’, Old Japanese ke ‘day’).

The similarity of the Tocharian and Turkic words was noticed long ago (cf. Meillet 1914: 19: "Tel autre mot comme B kaum ‘jour’ rappelle le turc"). In 1941, van Windekens suggested a borrowing from Tocharian into Turkic, but Pedersen (1944: 11) argued that the direction of the borrowing must be the opposite, which was later endorsed by van Windekens (1976: 627). In his 1963 article, Winter discussed the relationship between these words. He started with the observation that "a connection between the Turkic and Tocharian words does indeed seem likely: both Old Turkish kü'n and Tocharian B kaum, A kom occur in combination with the equivalent of Sanskrit deva; beside Old Turkish kü'n we find kü'n tängri, beside Tocharian A kom: kom₃käi, beside Tocharian B kaum: kaum₃näkte. The first member of the pair refers to ‘day’ and ‘sun’, the

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1 We would like to express our gratitude to W. Behr, F. Kortlandt, G.-J. Pinault, and J. Wiedenhof for a number of valuable remarks on the first draft of this paper.
second denotes the sun-god." Winter assumed borrowing from Tocharian into Turkic because of two considerations: (1) "The Common Turkic word for 'sun, day' (Old Turkish kün, etc.) does not seem to occur outside this subgroup of Altaic languages; in terms of Turkic morphology, the word seems unanalyzable" (1963: 239). Since the Turkic word turns out to have a good Altaic etymology, the argument naturally becomes invalid. (2) "In B, the word for 'sun' belongs to an unproductive inflectional class." This would have been a strong counter-argument if the word was recently borrowed, but there can be no doubt that the borrowing must be dated by the Proto-Tocharian period.

The whole issue depends of course on the quality of the Indo-European etymology for the Tocharian word for 'sun'. After a discussion of the previous etymological suggestions, Winter opts for the connection with Gr. κόιος 'to kindle, set on fire' < *keh₂u- (originally proposed by Smith 1910: 10). Although this etymology seems to be generally accepted (cf. Hilmarsson 1996: 118-119, Adams 1999: 211), it is not very strong. First of all, it is a root etymology at best. There is no agreement among the scholars about the Indo-European formation which is represented in Toch. kom/kaum, and everyone devises his own morphological scenario in order to get to the attested forms. Secondly, the Greek root is isolated in Indo-European. The etymological dictionaries only mention Lith. kūlē 'ergot, smut' ('Brandpilze, Staubbrand des Getreides'), kūlēti 'become blighted' ('brandig werden'), which can hardly be separated from the verb kūlti 'to thresh, thrash'. Winter’s attempt to connect with Gr. κόιος the Indo-Iranian words for 'morning' (Skt. śvās, Av. sūram) has not been accepted by later scholarship, and probably rightly so. Thirdly, the semantic development, although feasible, is by no means evident. It seems important that the combination of the meanings 'sun' and 'day' is very unusual in the Indo-European languages, and thus is a strong indication for borrowing.

The phonetic objection raised by Adams ("In any case there is no reason *gün would have given anything but PTch **kin or **kun") is not prohibitive for borrowing, because we know very little about the Proto-Tocharian and (pre-)Proto-Turkic phonetics. There are several possible scenarios which would account for Tocharian *-au- instead of *-u-. Since PToch. *u comes from PIE *eu, it can only occur after a palatalized consonant. It is therefore conceivable that PToch. *u sounded as ī and was unsuitable for rendering Proto-Turkic *u. Alternatively, we may assume that the Turkic word for 'sun' had not yet become *gün and was still *gôn- when it was borrowed with the same substitution of o with au as in the word for 'dust' (see No. 3 below).

2. Toch. A āle, Toch. B alyiye* 'palm (of the hand)' < PToch. *āl’ye :: Proto-Turkic *āja 'id.' (OUygh. aja, Turkm. āja, etc.) < *ālja < Proto-Altaic *p’ālja (Proto-Mongolian *haliga(n), PTM *palja 'palm (of the hand)', perhaps also Proto-Korean *pār ‘armful’).

Pedersen (1941: 74) already warned against connecting the Tocharian word with the Indo-European family for 'elbow'. Although 'it is well known that words denoting parts of the body often do not have a quite consistent meaning and tend to be transferred to other body-parts
in the vicinity” (Hilmarsson 1986: 231-232), it remains a fact that in Indo-European languages, the word for 'elbow' is only used for the elbow-joint and for the adjacent bones, i.e. forearm (e.g. Greek and OIc.) or shoulder (Armenian). Adams (1999: 27) proposes "a semantic development from *'elbow' to *'lower arm' (as in Greek for instance) > *'inner surface of lower arm' > 'palm of the hand'”, which may well be "within the realm of possibility", but is nevertheless highly improbable.2

The borrowing must be fairly old, anterior to the loss of -l- in Proto-Turkic *āja < *ālja.

3. Toch. A tor, Toch. B taur 'dust' < PToch. *taur :: Proto-Turkic *tő́r 'dust' (OUygh. toz, Turkm. tőz) < Proto-Altaic *tő́ře 'soil, dust' (WMong. tortag 'snuff, tar', toru 'flying dust'; PTM *turV, etc.).

In 1964, van Windekens proposed to consider the Tocharian word as a loan-word from Altaic ("mongol tordo"), but in his Lexique, he renounced this etymology in favor of Lane’s suggestion (1938: 27) to derive the word for 'dust' from PIE *dʰou(-)r- (thus also Adams s.v.). The problems with this derivation are obvious: the formation is unclear (the root *dʰeur- with its two consecutive resonants has an impossible structure, so that we have to postulate an extremely rare suffix -ru- or -ri-), and the meaning of comparanda like Ru. durь ‘folly’ does not inspire confidence in this etymology.

Other suggestions are also semantically unsatisfactory. Winter (1982: 182) proposed to derive Toch. taur/tor from *dʰeXwr (presumably, *dʰéh₁wr = 'that which settles = dust' (?), cf. Hilmarsson 1985: 43, who suggests *dʰ(o)h₁wr), whereas Pinault (1994a: 375-376) favors the derivation from the PIE root *teh₂- ‘to thaw, dissolve’, possibly with the root enlargement -w-, attested in Germanic (e.g. OE þāwian), i.e. *teh₂w-r. Although the word for 'dust' can, theoretically speaking, be derived from either of these roots, we find nothing comparable in other Indo-European languages.

It must be stressed that the Tocharian word must have been borrowed before the Turkic change of *r to z.

4. Toch. B ām* 'silence', adv. ‘quietly, still’ :: Proto-Turkic *am- 'to be gentle, quiet’ (Old Turkic amul, amil 'gentle, quiet’) < Proto-Altaic *āmV (Proto-Mongolian *amu-, *ami- 'to rest’, PTM *ām- 'to sleep’).

No Indo-European etymology of Toch. B ām is known, and although the body of the word is rather short, borrowing from Turkic seems plausible.

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2 Adams ascribes this scenario to Hilmarsson, but it is absent from the mentioned publication. Adams further correctly dismisses other etymological suggestions as phonologically impossible (van Windekens 1976: 161 connects Lithuanian délna 'palm’, OCS dlana ‘id.’ and Stalmaszczyk and Witeczak 1990: 39-40 connect Old Irish asil 'member’). The connection of the Tocharian word for 'palm' and Mongolian xalaqan was already considered by Rona-Tas (1974: 502 = 1986: 72), but in a very different prospective.
5. Toch. A kanak, B kenek < PToch. *kenek 'cotton cloth' :: Proto-Turkic *köjge-lek, *köjge 'shirt' (Karakh. köglek, Turkm. köjnek) < Proto-Altaic *k’jun ‘thread, cloth’ (Proto-Mongolian *keje ‘edge of cloth (on both sides), selvage’, Proto-Korean *ki’nhu ‘string, tassel’, Proto-Japanese *kín ‘silk; cloth, robe’).

As indicated by Pinault 2001b: 128-129, Toch. A kanak is an exact counterpart of B kenek, which does not mean 'shroud, linen cloth', as it was usually glossed, but 'cotton cloth'. In the Maitreyasamiti-Nāṭaka, A kanak corresponds to OUygh. bůz. Pinault considers the Tocharian word to be borrowed from Iranian. Since the connection with Sogd. knc’k ‘fabric’, Khor. knc(y)k [kancə] ‘shirt’ is phonologically unsatisfactory, Pinault opts for the derivation of PToch. *kenek (in his notation, *kč nk) from simplified *kc nk < *kč n and connects Khor. kcynyk ‘silk cloth’ with reference to Zieme 1995: 493. Although possible, the loss of -c- in this constellation in both Tocharian languages is unparalleled (especially Toch. A preserves the initial clusters rather faithfully), whereas the connection with the Turkic word, proposed here, involves no phonological or semantic difficulties (cf. for the meaning Sogd. knc’k ‘fabric’, Khor. knc(y)k ‘shirt’). We may add that the Turkic word has also been borrowed into Mongolian (WMong. kíjileg, Kalm. kílag, MMong. köglek).


The Tocharian word (also found in a compound olyapo ‘more; rather (than)’) has no Indo-European etymology, and borrowing is conceivable, although the source of palatalized ly is so far unclear.

7. Toch. A tmān, Toch. B t(a)māne ‘ten thousand, a myriad’ < PToch. *t(a)māne :: Proto-Turkic *Tūmen ‘ten thousand; very many’ (OUygh. tümen, Turkm. tümen) < Proto-Altaic *čiúmi ‘a large number’ (e.g. Proto-Korean *čiúnu ‘thousand’).

Tocharian may have borrowed this Turkic word through a Middle Iranian intermediary (cf. Modern Persian tumān ‘ten thousand’), which would better account for the vocalism.

8. Toch. B päršeri* ‘(head-)louse’: Proto-Turkic *bürče ‘flea’ (Tat. börče, Kum. bürče, Chuv. pəwrza, etc.) < Proto-Altaic *bůrće (WMong. bürge, bůurge ‘louse’, Proto-Korean *pjořok ‘flea’).

No Indo-European etymology of Toch. B päršeri* (also appearing in the mss. as päršere*) is known. The meaning of the Tocharian word is somewhat uncertain, but it is suggested by the following context: āsne yamaššälle päršere naksām ‘it [is] to be put on the head; it destroys lice’ (W-3a4), cf. Adams s.v. The variation päršere* : päršeri* may indicate that this is a loan word. The Tocharian vocalism points to a recent date of borrowing, but the suffix -re-/-ri- remains unaccounted for.

The Tocharian word is only attested in a compound yase-kwèpe ‘shame and modesty (vel sim.)’, which makes it difficult to assess the original quality of the -a-. Adams s.v. writes: "The consistent marking of stress on the first vowel of kwèpe suggests it is not a full compound", i.e. that both members have retained their accent. In that case, yase must go back to *yāse. If, however, we assume that the form of the simplex (kwèpe) was introduced into the compound and that the compound was accented on the second syllable as expected, yase̅ reflects earlier *yāsē.

The etymology, accepted in van Windekens 1976: 586 and Adams s.v., viz. that yase is a derivative of the root yās-/yās- ‘to excite sexually’, is semantically unsatisfactory.


Since the Tocharian verb has no reliable Indo-European etymology, borrowing can be considered. Although verbs are not easily borrowed, we may assume that Toch. kärk- is an original denominative. The verbal paradigm of kärk- (in B: pres. V1 kärknamane, also reflected in a verbal adjective kärkānamo ‘robber’, Subj. V inf. kärkatsi, Pret. Ia kärkāte; in A only inf. kärnātsi) is likely to have been taken over from the rhyming tärk- (especially, since the Toch. B compound cowai tärk- also means ‘to rob’) and cannot thus be used as an argument against borrowing.

The presented etymologies seem to indicate an early date of borrowing. Some of the loan words must already have been borrowed during the Common Tocharian period, and some represent the stage anterior to the Proto-Turkic sound changes *lj > j and *r̥ > z. The latter would date the Turco-Tocharian contacts by a period prior to the separation of the Bulgar (Chuvash) branch, most probably around the beginning of our era. The geographical location of Turks at that time is not clear enough, but we may suppose an area somewhere in the vicinity of Turfan, where the oldest Uyghur texts are found.

**Chinese loan words**

Whereas Tocharian borrowing from Turkic has not yet been accepted in Tocharology, Tocharian loan words from Chinese are well-known. Adams in his dictionary mentions the following words as having been borrowed from Chinese:

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4 This collection is based on a search in the Tocharian database on the site of the "Indo-European Etymological Dictionary" project (URL-address: www.ieed.nl). The Chinese reconstructions are taken from S. Starostin’s database of Chinese characters on the site of the "Tower of Babel" project (URL-address: starling.rinet.ru). The minor differences among the current reconstructions of Baxter and Starostin are irrelevant for our purpose.
5 The etymology of two words is uncertain. (1) Toch. A nкине, Toch. B řкante* ‘silver’ are usually taken to be loan words from Chinese 銀 yín ‘silver’ (< MC гин, OC *gron), provided with Tocharian suffixes, but Witzcak (1990)
1. Toch. AB klu 'rice' :: Chin. 稻 dào 'rice plant' < MC dāw < OC *Lhū? (cf. also Blažek 1999: 81f);
2. Toch. B rapaññe* (adj.) 'of the last month of the year' :: Chin. 臘 là 'winter sacrifice' < MC lāp < OC *rāp;
3. Toch. B cāk 'hundred quarts [dry measure]' :: Chin. 石 shí 'stone, measure of weight, measure of capacity (= 10 dōu) < MC ʒek < OC diak;
4. Toch. B cāñe* a unit of money :: Chin. 錢 qián 'money' < MC ʒjen < OC ʒan;
5. Toch. B cān 'ten quarts (dry measure)' :: Chin. 斗 dōu 'ladle, dipper, measure of dry goods' < MC tʌw < OC tʔ;
6. Toch. B sāk(u)se* 'brandy' :: Chin. 穀 su 'grain (rice or millet) in husk' < MC ʃuk < OC sok + Chin. 酒 jiu 'wine' < MC ejəw < OC cu?;
7. Toch. B sānk, a wet or dry measure of volume (1.1-1.2 liters or 1.2-1.3 quarts) :: Chin. 升 shēng 'a measure of weight (one tenth of a dōu) < MC ʃi < OC təŋ;
8. Toch. A yāmutsi, Toch. B yāmutsi a kind of waterfowl [= BHS hamsa-] :: Chin. 鵝 ē 'parrot' < MC ʔaŋ-muʔ-ʃi < OC *ʔeŋ-maʔ- 'parrot', cf. also Sogdian ʔemʃi 'parrot' from the same source. Adams s.v. doubts this etymology ("Against this derivation are difficulties both phonological (the first syllable of the Tocharian forms certainly does not match either the Chinese or the Sogdian) and semantic (both the Chinese and the Sogdian mean 'parrot')"), but both considerations do not seem serious enough to preclude borrowing from Chinese (possibly, through Iranian mediation).

Grenet and Pinault (1997: 1016-1022) added two more clear Chinese loan words:


It is peculiar that the Chinese word for 'wine, alcohol' is reflected in two different shapes in Tocharian, viz. as -tsok here and as -se in sak(u)se* 'brandy' (cf. number 6 above). It is conceivable that -tsok is influenced in its form by the verb tsuk- 'to drink'. The correlation of MC sǒ = Tokh. ši- in a disyllabic word is strengthened by the next case.

suggested that this word may reflect PIE *h2regjont (cf. Sanskrit rajatam 'silver') with assimilation to *h2regjont > ŋkante. (2) Toch. B kapei 'thumbprint (?), authentication' is "certainly a borrowing from the Chinese, but the details are obscure" (Adams s.v. with a reference to the article by Kumamoto in Emmerick and Skjærvø 1987:151-154). Jeroen Wiedenhof (p.c.) suggests that the Tocharian word may represent Chin. 押字 yā-zi 'to authenticate with a signature' ('signature, mark, pledge' + 'written character'), MC ʔap-ji with Chinese glottal closure being rendered as initial k- in Tocharian. This seems to be a distinct possibility, but since the precise meaning of Toch. B kapei is unknown, we cannot be sure.
10. Toch. B šipānkinc 'abacus'. The first part clearly resembles Chin. 數盤 shū-pán, MC šū-bân (OC *sro?-bân) 'counting board, tally, abacus', but the second part is so far less clear. Grenet and Pinault (1997: 1020-1022) suggest that it may represent Chin. 工具 gōngjù 'instrument', MC kuŋ-gû (OC kōŋ-gos).

This list of Chinese loan words in Tocharian can further be expanded.6

11. Toch. AB cok 'lamp' :: Chin. 燭 zhú 'torch, candle; shine' < MC ˇc`ôuk < OC tok.7

Traditionally, Toch. AB cok was etymologized as PIE *dʰegʷh₁-t-, a derivative of the root *tsäk- < *dʰegʷh₁- 'to burn', but this etymology is phonologically difficult, because palatalized ts appears in Tocharian as s, and not c. Therefore, Winter (1962: 18) wrote: "Das Beispiel cok bleibt unsicher -- er gehört in B zu einer Deklinationsklasse, die besonders bei Lehnmwörtern produktiv geworden ist ..., und ist daher möglicherweise fremder Herkunft". Other etymological explanations from Indo-European are also improbable (see Adams 1999: 256 for an overview).

12. Toch. A truïk, B tronk* 'hollow, cave', B tronktse (adj.) 'hollow' < PToch. *tronk :: Chin. 穴 chōng, chóng 'empty, hollow' < MC þhuŋ < OC thruŋ,8 with further Sino-Tibetan connections, cf. Tibetan doŋ 'a deep hole, pit, ditch', stöŋ 'empty, clear, hollow', stöŋ ` to make empty', Burmese twaŋh 'hole in the ground, pit', thuawn `to make a hole'.

Extra-Tocharian connections within Indo-European are unclear (for a review of the previous suggestions see Adams 1999: 321-322).

13. Toch. A ri, Toch. B ṛiye 'town' < PToch. *riye :: Chin. 里 lǐ 'village' < MC ˇlî < OC ｒa?. In 1998, Lubotsky (p. 368) proposed to consider borrowing in the opposite direction (from Tocharian into Chinese). The problem is, however, that the only sure extra-Tocharian relative is the Thracian βpía, presumably /uria/, mentioned by Strabo as a Thracian word for πόλις, τεῖχος and glossed by Hesych as κώμη. The Indo-European etymology of Toch. A ri, Toch. B ṛiye is thus rather questionable. On the other hand, Peiros and Starostin (1996, 2: 77) reconstruct Sino-Tibetan *riH, adducing Jingpo marej 'town'. If this Sino-Tibetan reconstruction is correct, the Tocharian word is likely to be borrowed from Chinese.

14. Toch. A lyäk, Toch. B lyak 'thief' < PToch. *lyäk :: Chin. 掠 lüè 'to plunder, rob; be rapacious' < Late MC liak < MC lak < OC rhak. Peiros and Starostin (1996, 2: 96) reconstruct Sino-Tibetan *rǒk (Tibetan ṛphrog 'to rob, take away, to deprive of', Lushan rok 'to plunder, loot, spoil').

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6 In a recent article, K.T. Schmidt mentioned two more possible Tocharian (B) borrowings from Chinese: "Die neuentdeckten Bezeichnungen für Längenmaße, tsum 'Zoll' und cak 'Fuß', sind dem Chinesischen entlehnt" (1999: 19). Unfortunately, Schmidt does not give any references as to where and in which context these words are found. He presumably assumes that they have been borrowed from Chin. 寸 cùn 'inch' < MC chóng < OC shūn-s and Chin. 尺 chǐ 'one foot (= 22.5 cm) < MC ˇchêk < OC thia³k, respectively.

7 An archaic Vietnamese loan from the same source is ước 'torch'.

8 Also read *dhrug, MC urrenc 'id.'. Mod. reading zhōng is secondary, on analogy with 書 *trugu, 'middle'.
No less than three Indo-European etymologies have been proposed for this Tocharian word: a root noun derived (1) from PIE *legʰ- ‘lie (down)’, thus ‘one who lies (in wait)’, (2) from PIE *lek- ‘fly’ seen in Lithuanian lékiu ‘fly, run’ (*’cause to fly’ > *’fly off with’ > ’steal’, cf. French voler), and (3) from PIE *leg- (Gr. λέγω) ‘to collect’. The first two etymologies are discussed by Adams (1999: 565), the third is by Pinault (apud Hilmarsson 1996: 87). All of them are phonologically impeccable, but not very probable on the semantic side.

15. Toch. AB tsem ‘blue’ :: Chin. 青 qīng ‘be blue, green’ < MC chieŋ < OC chēŋ.

Tocharian A e and B e do not correspond etymologically, so that Toch. A has probably borrowed this word from B. The proposed Indo-European etymologies are improbable (PIE *dʰus-on- to Old English dosen ‘dark brown’, Latin furvus ‘dark, black’, etc.), and in view of the almost perfect correspondence with the Middle Chinese form, borrowing can hardly be doubted.

We can distinguish two groups of Chinese loan words in Tocharian:

1) Early loans (words for ‘rice’, ‘winter sacrifice’, ‘cave’, ‘town’), showing pre-Han or Early Han phonetic peculiarities (Toch. kl- = OC l- (l-) vs. MC d-, Toch. r- = OC r- vs. MC l-, Toch. tr- = OC tr- vs. MC t-). They must have entered Tocharian not later than the 2nd century B.C.

2) Middle Chinese loan words (measures, alcoholic drinks, ‘money’, ‘waterfowl’, ‘torch’, ‘thief’, ‘abacus’, perhaps also ‘silver’ and ‘authentication’). These words exhibit typical Middle Chinese phonetic features (affricates instead of dentals before original fronted (< *short) vowels, MC l-instead of OC *r-, loss of medial -r-, usually typical MC vocalism). Note, however, back -a- in cāk = MC ʒek (OC *diak) and cāne = MC ʒen (OC *ʒen), which may indicate that those words were borrowed somewhat earlier than Middle Chinese (7th century A.D.), possibly in the 3rd or 4th century A.D.

Available evidence, therefore, allows to conclude that Tocharo-Turkic contacts should be dated by a rather early period (possibly synchronic with the earliest Tocharo-Chinese contacts), but the Chinese influence was more lasting and continued from the 3rd or 2nd centuries B.C. until the Middle Chinese period (around 7th century A.D.).

References

Adams, Douglas Q.
1999 A dictionary of Tocharian B. Amsterdam - Atlanta: Rodopi.

Blažek, Vaclav
1999 Alimenta Tocharica. Tocharian and Indo-European Studies 8: 79-84.

Emmerick, Ronald E. and Prods Oktor Skjærvø
1987 Studies in the vocabulary of Khotanese II. Wien: Österreichische Akademie der Wissen-

9 The Proto-Tocharian reconstruction given by Adams (s.v.) is fictitious.
Turkic and Chinese loan words in Tocharian

Grenet, Franz and Georges-Jean Pinault

Hilmarsson, Jörundur

Lane, George Sherman

Lubotsky, Alexander

Meillet, Antoine

Pedersen, Holger

Peiros, Ilia and Sergej Starostin

Pinault, Georges-Jean

Róna-Tas, Andras

Schmidt, Klaus T.

Smith E.

Stalmaszczyk, Piotr and Krzysztof T. Witczak
1990 Celto-Tocharica I. Three Celtic-Tocharian terms for certain parts of the body. Tocharian and Indo-European Studies 4: 35-44.

Starostin, Sergej A. - Anna V. Dybo - Oleg A. Mudrak
forthcoming: An etymological dictionary of Altaic languages. Leiden: Brill. [The Altaic database can also be consulted on the site of the "Tower of Babel" project (the URL-address of the site is starling.rinet.ru)].

Van Windekens, Albert Joris
1941 Lexique étymologique des dialectes tokhariens. Louvain: Muséon.

Winter, Werner

Witczak, Krzysztof T.

Zieme, Peter
### Abbreviations

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<td>(Modern) Chinese</td>
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<td>Chuv.</td>
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<td>Kalm.</td>
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