

Turkic and Chinese loan words in Tocharian

ALEXANDER LUBOTSKY and SERGEI STAROSTIN

Turkic loan words in Tocharian¹

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 from 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 **gün(eł)* / **günál* (OUygh. *kün* 'sun, day', Turkm. *gün* 'id.', etc.) < Proto-Altaic **gjoǵnu* 'dawn, daylight' (Proto-Mongolian **gegeye* 'dawn, daylight' < **geye* < **gej*, Proto-Tungusic **gianám* 'dawn', Proto-Korean **kúi* '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 *kün* and Tocharian B *kaum*, A *kom* occur in combination with the equivalent of Sanskrit *deva*; beside Old Turkish *kün* we find *kün tängri*, beside Tocharian A *kom*: *komñkät*, beside Tocharian B *kaum*: *kaumñäkte*. The first member of the pair refers to 'day' and 'sun', the

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. *καίω* '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. *καίω* the Indo-Iranian words for 'morning' (Skt. *śvās*, Av. *sūrəm*) 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 *ü* and was unsuitable for rendering Proto-Turkic **u*. Alternatively, we may assume that the Turkic word for 'sun' had not yet become **gun* and was still **gon-* when it was borrowed with the same substitution of *o* with *au* as in the word for 'dust' (see No. 3 below).

259

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'āl'ja* (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 **tōr* 'dust' (OUygh. *toz*, Turkm. *tōz*) < Proto-Altaic **t'ōre* '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 *toro*"), but in his *Lexique*, he renounced this etymology in favor of Lane's suggestion (1938: 27) to derive the word for 'dust' from PIE **d^hou(-)r-* (thus also Adams s.v.). The problems with this derivation are obvious: the formation is unclear (the root **d^heur-* 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. *durb* 'folly' does not inspire confidence in this etymology.

Other suggestions are also semantically unsatisfactory. Winter (1982: 182) proposed to derive Toch. *taur/tor* from **d^heXw_r* (presumably, **d^heh₁w_r* = 'that which settles = dust' (?), cf. Hilmarsson 1985: 43, who suggests **d^h(o)h₁w_r*), 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.

260

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*, *amıl* '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.

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 *dėlna* 'palm', OCS *dlanъ* 'id.' and Stalmaszczyk and Witczak 1990: 39-40 connect Old Irish *asil* 'member'). The connection of the Tocharian word for 'palm' and Mongolian *xalaqan* was already considered by Róna-Tas (1974: 502 = 1986: 72), but in a very different perspective.

9. Toch. B *yase** 'shame': Proto-Turkic **jās* 'loss, damage, shame' (OUygh. *jas* 'loss, damage', Yak. *sāt* 'shame' etc.) < Proto-Altaic **ziāsu* 'loss, damage'.

The Tocharian word is only attested in a compound *yase-kwīpe* '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 *kwīpe* suggests it is not a full compound", i.e. that both members have retained their accent. In that case, *yase* must go back to **yā́se*. If, however, we assume that the form of the simplex (*kwīpe*) was introduced into the compound and that the compound was accented on the second syllable as expected, *yasẽ* reflects earlier **yā́sé*.

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.

10. Toch. AB *kärk-* 'rob, steal': Proto-Turkic **Kar-ak* 'bandit' (OUygh. *qaraq-čī*, Turkm. *Garak* etc.) < Proto-Altaic **kara* 'opposite; enemy'.

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. VI *kärknamane*, also reflected in a verbal adjective *kärkänamo* '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.

262

Chinese loan words

Whereas Tocharian borrowing from Turkic has not yet been accepted in Tocharology, Tocharian loan words from Chinese are well-known³. Adams in his dictionary⁴ mentions the following words as having been borrowed from Chinese⁵:

³ For a recent discussion of the Chinese words for various measures borrowed in Tocharian, cf. Pinault 1994b: 93.

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 *nkiñc*, Toch. B *ñkante** 'silver' are usually taken to be loan words from Chinese 銀 *yín* 'silver' (< MC *pin*, OC **grən*), provided with Tocharian suffixes, but Witczak (1990)

1. Toch. AB *klu* 'rice' :: Chin. 稻 *dào* 'rice plant' < MC *dāw* < OC **Łhū?* (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 *dǒu*)' < MC *žek* < OC *diak*;
4. Toch. B *cāne** a unit of money :: Chin. 錢 *qián* 'money' < MC *žen* < OC *žan*;
5. Toch. B *tau* 'ten quarts (dry measure)' :: Chin. 斗 *dǒu* 'ladle, dipper, measure of dry goods' < MC *tāw* < OC *tō?*;
6. Toch. B *śak(u)se** 'brandy' :: Chin. 粟 *sù* 'grain (rice or millet) in husk' < MC *sjöuk* < OC *sok* + Chin. 酒 *jiǔ* 'wine' < MC *cjǒw* < OC *cu?*;
7. Toch. B *šan̄k*, 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 *dǒu*)' < MC *śij* < OC *təg*;
8. Toch. A *yāmutsi*, Toch. B *yāmuttsi* a kind of waterfowl [= BHS *ham̄sa*-] :: Chin. *yīng-wǔ*-(zi) 鸚鵡 (子) < MC *ʔaiŋ-mü-cjǐ* < OC **ʔrēŋ-ma?*- 'parrot', cf. also Sogdian *ʔymʷtsy* /*ēmūtsi*/ '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).

263

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

9. Toch. B *šitsok* 'millet-alcohol' :: Chin. 黍 *shǔ* 'glutinous millet (*Panicum miliaceum*)' < MC *śō* < OC *sla?* (~ *λ-*) + 酒 *jiǔ* 'wine' < MC *cjǒw* < OC *cu?* (Grenet - Pinault 1997: 1016-1018).

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 *śak(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 *śō* = Tokh. *ši-* in a disyllabic word is strengthened by the next case.

suggested that this word may reflect PIE **h₂reǵntóm* (cf. Sanskrit *rajatām* 'silver') with assimilation to **h₂neǵntóm* > *ñkante*. (2) Toch. B *kapci* '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-zì* 'to authenticate with a signature' ('signature, mark, pledge' + 'written character'), MC *ʔap-ʒjǐ* 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 *kapci* is unknown, we cannot be sure.

10. Toch. B *ṣipāñkiñc* 'abacus'. The first part clearly resembles Chin. 數盤 *shǔ-pán*, MC *ṣǔ-bân* (OC **sroʔ-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-gǔ* (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 *cōuk* < OC *tok*.⁷

Traditionally, Toch. AB *cok* was etymologized as PIE **dʰēgʷh₂-*, a derivative of the root *tsāk-* < **dʰēgʷh₂-* 'to burn', but this etymology is phonologically difficult, because palatalized *ts* appears in Tocharian as *ś*, and not *c*. Therefore, Winter (1962: 18) wrote: "Das Beispiel *cok* bleibt unsicher -- er gehört in B zu einer Deklinationsklasse, die besonders bei Lehnwörtern productiv 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 *trunk*, B *tronk** 'hollow, cave', B *tronktse* (adj.) 'hollow' < PToch. **tronk* :: Chin. 盅 *chōng*, 洞 *chōng* 'empty, hollow' < MC *thūŋ* < OC **thrup*,⁸ with further Sino-Tibetan connections, cf. Tibetan *dog* 'a deep hole, pit, ditch', *stog* 'empty, clear, hollow', *stogs* 'to make empty', Burmese *twagh* 'hole in the ground, pit', *thwagh* '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 *rīye* 'town' < PToch. **riye* :: Chin. 里 *lǐ* 'village' < MC *lí* < OC *rəʔ*.

264

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 βρία, presumably */yria/*, mentioned by Strabo as a Thracian word for πόλις, τεῖχος and glossed by Hesych as κόμη. The Indo-European etymology of Toch. A *ri*, Toch. B *rīye* is thus rather questionable. On the other hand, Peiros and Starostin (1996, 2: 77) reconstruct Sino-Tibetan **riəH*, adducing Jingpo *məre*¹ '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 **rǝk* (Tibetan *āphrog* 'to rob, take away, to deprive of', Lushan *rok* 'to plunder, loot, spoil').

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 *chòn* < OC *shūn-s* and Chin. 尺 *chǐ* 'one foot (= 22.5 cm)' < MC *chék* < OC *thiak*, respectively.

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

⁸ Also read **dhrup*, MC *ḍūŋ* 'id.'. Mod. reading *zhōng* is secondary, on analogy with 中 **trup*, 'middle'.

No less than three Indo-European etymologies have been proposed for this Tocharian word: a root noun derived (1) from PIE **leg^h-* ‘lie (down)’, thus ‘one who lies (in wait)’, (2) from PIE **lek-* ‘fly’ seen in Lithuanian *lėkiu* ‘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.⁹ The proposed Indo-European etymologies are improbable (PIE **d^hus-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 *ġ-* (*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 *ġek* (OC **diak*) and *cāne* = MC *ġjen* (OC **ġan*), 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.

265

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

266

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 Wissenschaften.

⁹ The Proto-Tocharian reconstruction given by Adams (s.v.) is fictitious.

Grenet, Franz and Georges-Jean Pinault

- 1997 Contacts des traditions astrologiques de l'Inde et de l'Iran d'après une peinture des collections de Turfan. *Comptes rendus de l'Académie des Inscriptions & Belles-Lettres* 1997: 1003-1061.

Hilmarsson, Jörundur

- 1985 Tocharian B *krorīyai* (obl.sg.), A *kror* 'crescent, horn of the moon'. *Die Sprache* 31: 40-47.
- 1986 *Studies in Tocharian phonology, morphology, and etymology with special emphasis on the o-vocalism*. Reykjavík: Málvísindastofnun Háskóla Íslands.
- 1996 *Materials for a Tocharian historical and etymological dictionary*. Reykjavík: Málvísindastofnun Háskóla Íslands.

Lane, George Sherman

- 1938 Problems of Tocharian phonology. *Language* 14: 20-38.

Lubotsky, Alexander

- 1998 Tocharian loan words in Old Chinese: chariots, chariot gear, and town building. In: Victor A. Mair (ed.), *The Bronze Age and Early Iron Age peoples of Central Asia*, 379-390, Washington D.C.: Institute for the Study of Man.

Meillet, Antoine

- 1914 Le Tokharien. *Indogermanisches Jahrbuch* 1: 1-19.

Pedersen, Holger

- 1941 *Tocharisch vom Gesichtspunkt der indoeuropäischen Sprachvergleichung* (Det Kgl. Danske Videnskabernes Selskab. Historisk-filologiske Meddelelser XXVIII,1). København: I kommission hos Ejnar Munksgaard.
- 1944 *Zur tocharischen Sprachgeschichte*. København.

Peiros, Ilia and Sergej Starostin

- 1996 *A comparative vocabulary of five Sino-Tibetan languages*. 6 vols. Melbourne: The University of Melbourne, Department of Linguistics and Applied Linguistics.

Pinault, Georges-Jean

- 1994a Lumières tokhariennes sur l'indo-européen. In: Jens E. Rasmussen (ed.), *In honorem Holger Pedersen. Kolloquium der Indogermanischen Gesellschaft vom 26. bis 28. März 1993 in Kopenhagen*, 365-396, Wiesbaden: Reichert.
- 1994b Aspects du bouddhisme pratiqué au nord du désert du Taklamakan, d'après les documents tokhariens. *Bouddhisme et cultures locales. Quelques cas de réciproques adaptations. (Actes du colloque franco-japonais de septembre 1991)*. Paris: EFEO.
- 1998 Tocharian languages and pre-Buddhist culture. In: Victor A. Mair (ed.), *The Bronze Age and Early Iron Age peoples of Central Asia*, 358-371, Washington D.C.: Institute for the Study of Man.
- 2001a Tocharo-Turcica. In: L. Bazin, P. Zieme (eds.), *De Dunhuang à Istanbul. Hommage à James Russel Hamilton*, (Silk Road Studies V), 245-265, Turnhout: Brepols.
- 2001b Nouveautés lexicales et morphologiques dans le manuscrit de Yanqi du Maitreyasamiti-Nāṭaka en tokharien A. In: Stefan Wild and Hartmut Schild (eds.), *Akten des 27.*

Deutschen Orientalistentages (Bonn - 28. September bis 2. Oktober 1998). Norm und Abweichung, 121-136. Würzburg: Ergon.

Róna-Tas, Andras

1974 Tocharische Elemente in den altaischen Sprachen? *Sprache, Geschichte und Kultur der altaischen Völker. Protokollband der XII. Tagung der Permanent International Altaistic Conference 1961 in Berlin*, 499-504, Berlin: Akademie-Verlag.

1986 *Language and history. Contributions to comparative Altaistics*. Szeged.

Schmidt, Klaus T.

1999 Beobachtungen zur tocharischen Landwirtschaftsterminologie. *Sprache* 41: 1-23.

Smith E.

1910 "Tocharisch". *Die neuentdeckte indogermanische Sprache Mittelasiens*. Vid. Selsk. Skrifter, II. Hist.-fil. Kl. 1910, Nr. 2. Christiania.

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.

1964 Sur quelques mots tokhariens provenant de langues asiatiques indo-européennes et non-indo-européennes. *Orbis* 13: 589-597.

1976 *Le tokharien confronté avec les autres langues indo-européennes, Vol. I. La phonétique et le vocabulaire*. Louvain: Centre International de Dialectologie Générale.

1977 Recherches complémentaires sur le vocabulaire tokharien I. *Orbis* 26: 141-148.

Winter, Werner

1962 Die Vertretung indogermanischer Dentale im Tocharischen. *Indogermanische Forschungen* 67: 16-35.

1963 Tocharians and Turks. *Uralic and Altaic Studies* 23: 239-251.

1982 Indo-European words for "tongue" and "fish": A reappraisal. *The Journal of Indo-European Studies* 10: 167-186.

Witczak, Krzysztof T.

1990 Tocharian A *nkiñc*, B *ñkante* 'silver'. *Tocharian and Indo-European Studies* 4: 47-48.

Zieme, Peter

1995 Philologische Bemerkungen zu einigen alttürkischen Stoffnamen. *Acta Orientalia Academiae Scientiarum Hung.* 48: 487-94.

Abbreviations

Chin.	(Modern) Chinese
Chuv.	Chuvash
Kalm.	Kalmuck
Karakh.	Karakhanide Turkic
Khor.	Khorasmian
Kum.	Kumyk
MC	Middle Chinese
MMong.	Modern Mongolian
OC	Old Chinese
OUygh.	Old Uyghur
PIE	Proto-Indo-European
PToch.	Proto-Tocharian
Ru.	Russian
Sogd.	Sogdian
Tat.	Tatar
Toch.	Tocharian
PTM	Proto-Tungus-Manchu
Turkm.	Turkmenian
WMong.	Written Mongolian
Yak.	Yakut