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The Vocabulary of Tocharian Medical Manuscripts

Gerd Carling

Abstract
This paper will give a survey of the Tocharian medical vocabulary as known from fragments of manuscripts preserved in Buddhist monasteries along the Northern route of the Silk Road. The origin of the medical vocabulary reflects the influx of loanwords and cultural influences from neighbouring languages as well as the written lingua franca of the region, Sanskrit. However, different parts of the vocabulary reflect different types of vocabulary, e.g., indigenous words, calques, loan translations or borrowings. Tocharian medical texts represent, in almost all instances, translations from Sanskrit. This has of course influenced the vocabulary, even though traces of an indigenous tradition can be found in the vocabulary.

Keywords
Tocharian, Tocharian A, Tocharian B, Tocharian medicine, materia medica

The Tocharian Language
Tocharian A and B are two closely related languages which were spoken in the Tarim Basin, probably up to the thirteenth century CE. They are known from manuscripts and wall paintings, found mainly in cave monasteries in the ancient cultural areas of the northern fringe of the Takhirman desert: the Maralbash, the Kuchā-Qyzyl, the Yanqi-Agni, and the Turfan-Chotscho areas. Tocharian B or "West Tocharian" documents are found at all sites, in total around 3,200 documents, and Tocharian A or "East Tocharian" is found only at sites in the east, in all around 1,100 documents. Some of the Tocharian B texts (caravan passes) can be linguistically dated with certainty to the first half of the seventh century CE. Through the dating (using C14 of Professor Grooten, of the Christian-Albrechts-Universität in Kiel (see Tamai 2005), Tocharian A and B manuscripts can be dated from the fourth to the thirteenth century CE, with a concentration around the fifth to ninth centuries. Tocharian texts are mainly of Buddhist nature and they represent—with the exception of a handful economic and administrative documents—translations from Sanskrit, even though there was an independent literary tradition. The Northern route of the Silk Road passed through the Tocharian cities, transferring goods...
and cultural influences to and from the Tocharian area. The medical literature, which is one of the areas of Tocharian literature, reflects this influence.

The Tocharian medical literature

The Tocharian texts of medicine have their place within the framework of Central Asian Buddhist medical literature, which traces its roots back to the Ayurvedic medical tradition but which has its own distinct methods and purposes.

The number of published Tocharian medical texts is around 70, mostly in Tocharian B (or Kuchean). These texts are found in the collections of Hoernle, and Stein and Weber. 'Turfan collection' and the Pelliot collection preserved at the Bibliothèque Nationale de France. Among the unpublished texts we find manuscripts also in Tocharian A (or Agnean). These fragments belong to the Pelliot collection and are being prepared for eventual publication by Professor Georges-Jean Pinault in Paris. A handful of magical texts in the unpublished material, mostly in Tocharian B but some of which are in Tocharian A, should also be mentioned here, especially as their contents partly overlap with those of the medical texts such as, for instance, prescriptions with enumerations of particular ingredients.

Most medical texts are very fragmentary, often with more than 50 per cent lost. For a large number of the texts, the contents and possible parallel texts in Sanskrit, Khotanese or Tibetan are not known, basically because of the large lacunas and the poor understanding of the translation of the preserved parts. A couple of fragments are almost perfectly well preserved. This is the case with the three documents PKAS 2A, 2B and 2C, bilingual Sanskrit—Tocharian B, which contain parts of the Yogāśataka. The contents of these texts can be reconstructed and translated with great certainty and parallel texts can be found in Sanskrit, Khotanese, and Tibetan. From these fragments it can be observed that the Tocharian texts provide a relatively free translation in relation to the Sanskrit original, which is given in the text. If other parallel source texts could be identified, we might find this feature in other Tocharian texts also. Normally the information in the Sanskrit texts is expanded by practical

information in the Tocharian translation, as in the following example from the Yogāśataka (italics represent extensions of the Tocharian translation):

PKAS.2B b1-6 nisātratθahar[θ][k][l]mytalatθuk <p>-a[tamuli bat]lā mānak-θivθymtah satyalatθuk <p>- kṣo dhanusθarpryqθah pρθabθuθgθhanθubθuθkθhθ phalini kptθcakakallθ - vasi kθucθkθ mθradθghθθhy aθtθh θhah θhah hθyanθ | kθknθkya<br>madanaphθl <p>thpl <p>gθrcθi anθrap θītθsθθmθnθ bol mθsθ peθθθnwθ - kθntθθcθqe <p>θθlyθeθ - sθlysθ mθsθ - pθrrθt <p>peθθθ mθntθθ - pθssθθ θlθmθttθ θθnθθ <p>θθppθθθ θθvθ - θθntθθ<br>kθncθθ kθwθθye mθnnθ - nuθθθθ vθθsθθθθθθ mθnθθθθ θθnθθθθθθ θθnθθθθθθ θθnθθθθθθ<br>

With Vanda roxburghii, fruit of the Randia dumetorum, three myrobalan, Tinospora cordifolia, twice the (five) roots, Sida cordifolia, meat bouillon, sesame oil, salt, honey, molasses, clarified butter, honey, anise. Aegle marmelos, long pepper, Acorus calamus and rice-vinegar, with cow urine or milk, a nasal medicament (ar) a month washing should be administered; it is good for wind diseases. If one takes it with bouillon, it is also good.

Layers of loanwords in the Tocharian vocabulary

The source languages

Beside the indigenous vocabulary, i.e. words whose Indo-European etymologies are certain, Tocharian has a number of loanwords from neighbouring languages. This is particularly prominent in the medical vocabulary, where most of the special terms have their origin in Middle Indo-Aryan or Sanskrit. However, other languages occur as well. Before we go into detail, a general survey of the origin of loanwords in Tocharian will be presented.

Chinese and Turkic borrowings are found already in the Proto- or Common Tocharian period (that is, in rough outlines, from 400 BCE–0), up to the period of Tocharian A and B (in the fifth–ninth centuries CE). The number of borrowings from the early period (from Old Chinese and Proto-Turkic) is not great and words of this type that occur in the medical vocabulary (as Tocharian AB klhu 'rice') occur outside the medical text corpus as well (cf. Medical ingredients).

More common in the medical vocabulary are the Iranian loanwords that originated in a linguistic exchange during the period lasting from Common Tocharian to Pre-Tocharian A and Pre-Tocharian B. First, at a very early date (approximately 500–400 BCE) a handful of Old Iranian or Proto-Ossetic loanwords entered the Tocharian lexicon. However, there are no examples of this in the medical vocabulary. Later, we find Bactrian, Sogdian and Khotanese
borrowings that entered the Tocharian language prior to the split into Tocharian A and B or at an early stage of Pre-Tocharian A and Pre-Tocharian B.4

The borrowings from Indo-Aryan, i.e. various stages of Middle Indo-Aryan and Sanskrit are numerous in the medical vocabulary. These borrowings can be divided into chronological layers: 1) Gândhári, 2) Middle Indo-Aryan, 3) Buddhist Sanskrit. Unfortunately, relatively little research has been done on this linguistic exchange.5

In the next section, examples from each group, selected from Tocharian medical manuscripts, will be analysed. The vocabulary will be divided into three, according to very fundamental semantic spheres of medical texts: body parts, diseases and medical ingredients. Occurrences in medical manuscripts will be given in square brackets.

**Grouping loanwords through relative chronology**

In the various stages of Proto- or Common Tocharian or Pre-Tocharian A and Pre-Tocharian B, the influx of loanwords can be divided into layers by the relative chronology of the sound changes. In the medical vocabulary, this is particularly noticeable in the Indo-Aryan borrowings, where the gradual cessation of the process of devoicing and de-aspiration of voiced and aspirated stops into voiceless non-aspirated stops (*d, *dh > t; *g, *gh > k; *b, *bh > p,* can be observed.6

In early borrowings we find devoicing/ despiration of stops in all positions. e.g., B pílamáti 'centre of the fruit of the Aegle Marmelos' Skt. bilasamadha 'the flesh of the Bilva fruit'.7 [pílamáti PKAS.2A a4, pílamáti PKAS.2B b5, W 7 a5, pilamaddhhi (which belongs to the next group, "Later borrowings") PKAS.9 a6.]

In later borrowings we find no devoicing/ despiration of stops initially, e.g., B bhadottá 'portion' Skt. bhágottaram, Khot. bhyáttá 'a portion that should be increased accordingly'.8 [PKAS.2A b3.]

In the latest borrowings, we find no devoicing/ despiration of stops in any position. This is found for instance in A abhidharmā, B abbidārām, abbidāḥrām Skt. abhidharmā- 'name of the third section of the Buddhist canon'.9 This is not a medical term (no perfect example was found in medical vocabulary). A corresponding example from the medical vocabulary, representing the same group is B anúci Skt. anücki 'want of appetite, disgust' [PKAS.2C b3].

**The medical vocabulary**

**Body parts**

A fundamental part of the Tocharian medical vocabulary is the body parts, mentioned either as affected directly by a disease, e.g.,

\[\text{[anúci(n) anuči] anuči jhūdāna avārī padā avāra} [\text{PKAS.2A a6}]\]

'this destroys a five-fold pain in the hip, (the shoulder), the organ of the abdomen and the heart'.

Or as indirectly affected, i.e., as being affected as a result of another disease, e.g.,

\[\text{[laúun selan jūkam jūkam yamalle] jūkám selan yamalle; jūkam selan yamalle; jūkam selan yamalle} [\text{PKAS.2A a6}]\]

'he is repeatedly becoming ill in the mouth, (likewise he becomes breathless) as if carrying a burden, vomiting, and his nostrils are blocked [i.e. he has a nasal catarrh]. Anxiety (nausea) besets his body, he is (is) confused ([and] by day) time (for sleeping constantly) comes up for him. He has no desire to eat and constantly his body is satiated. Know (this mentioned before as sign) of a cancer due to phlegm.'

Translating body parts can be, surprisingly enough, a complicated matter. The reason is that body parts, with only a few exceptions, seem to be inherited Indo-European words, not borrowings, at least not from any of the known neighbouring languages. Many of them occur only in medical contexts, and here sometimes just once or twice. In these cases, the translation can only be secured by parallel texts in Sanskrit or some other language and not by uncertain etymologies. Nevertheless, several of the body parts lack good Indo-European etymologies, e.g.,

Tocharian B tū = Skt. kūdi- '[lower] abdomen, womb'.10 [PKAS.2A a6, IOL Toch 205 b5.]

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7 MW:732a.
9 See Adams 1999, p. 17, BHSD, 51a.
10 For details and text samples, see Carling 2003b, pp. 86–8.
or:

Tocharian B *krii?i* = Skt. *manayi*- 'spine, nape of the neck'.


Even if we would suspect indigenous Indo-European lexemes for the body parts, borrowing cannot be excluded.

For example: B *a?i?i* = Skt. *s?i?i*- 'the hips and loins, buttocks'. [PKAS.2A a6.]

Pinault compares this form to Skt. *dsi?-* 'linch-pin, peg, bolt' or: the part of the leg just above the knee'. 11 Pinault assumes that both words are borrowed from an *dsi* meaning 'hip' Proto-Toch. *dsi*. Since *dsi* is already attested in Vedic Sanskrit, supported by the fact that the sound change Proto-Toch. *a* > Toch. B 0 [A a] does not apply to later Indo-Aryan borrowings (cf. below), we must assume a very early take-over from some Central Asian language different from Tocharian and Indo-Aryan.

**Diseases**

With diseases or other ailments, it is a somewhat different story. Here we have indigenous terms in addition to calques, loan translations and borrowings, which can be extended by an indigenous suffix.

As concerns indigenous words, it is sometimes difficult to judge whether they have been influenced by the Sanskrit equivalents, or if they represent terms that were used and known before the influx of Sanskrit already, e.g.,

B *klasa?re?i* (lit. 'female disease') = Skt. *asr?elana*- 'irregular or excessive menstruation, menorrhagia'. [PKAS.2A a1.]

B *po-pok* (lit. 'whole steadiness') = Skt. *sthanitur?i*- 'steadiness, fixedness'.

In other instances, we have to do with obvious loan translations, mostly from Sanskrit, as in


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12 MW:1102c, Carling 2003a:48, 64.
13 Pinault 2003.
14 MW, p. 121c.
15 MW, p. 1258c.
17 MW, p. 1130a.
18 Adams 1999:368.
19 MW, p. 973ab.
20 Cf. MW, p. 629c.
21 MW, p. 574c.
25 See Carling et al. forthcoming.

Even more frequent are calques of Sanskrit terms, e.g.,


B *tute nat?i?i?i* = Skt. *pitubhito?-* 'having yellow colour'. B *tute* means 'yellow' and B *nat?i?i* 'being from new' = 'be'. [PKAS.2C a2.]

The names of some diseases are pure borrowings, basically from the Sanskrit, e.g.,

B *panku*- 'lame'. Skt. *pat?i?i?i*- 'lame, crippled in the legs'. [PKAS.2C a3.]

A borrowing can be expanded by an indigenous suffix, e.g.,


**Medical ingredients**

The terms for medical ingredients represent a mixture of indigenous words and borrowings in different stages from neighbouring languages. Unlike the diseases, the medical ingredients rarely represent calques or loan translations. Indigenous words are found among the basic ingredients used for medical purposes or in medical recipes, e.g.,

B *malku?i?i*- 'milk'. [B: many occurances A: PKNS.2 b1, PKNS.3 a2.]

B *kuwi?i?i m?i?i?i?i* = 'cow urine' (the translation of A *wa?i?i* as 'urine' is new16 and caused by a passage of the text PKNS.3 a1.25 [B: PKAS.2B b5, A: PKNS.3 a1.]
One of the most basic ingredients in medical mixtures, but which also often occurs outside the medical literature, is of Old Chinese origin:

B: several occurrences, in particular in the adjective kluja-, kluja- = Skt. taudula, taudulata-, taudulaka- ‘of rice’.27 [A: PK.NS.3 a.2.]

However, these basic ingredients occur frequently in other non-medical texts as well. Therefore, they cannot be regarded as belonging to the medical vocabulary exclusively. This indicates that we cannot connect the medical tradition to lexemes borrowed at an earlier stage, i.e., to the time before the influx of Buddhist ideas and concepts.28

A handful of ingredients are of Iranian origin, e.g.,

B: twēkera = Skt. nágam-, nágri ‘ginger’ Middle Iranian *ti(z)ambar, Khor. ttumgra, ttunggra-.29 [PK.AS.2A a.2, b.2, PK.AS.3B b.5, also adjectival derivations]
B: kuicit, kuicit, A: kuicit ‘sesame’ Khot. kumjata.30 [B: several occurrences and derivations,31 A: PK.NS.2.]

A part of the vocabulary has its origin in Middle Indo-Aryan, in particular Gândhāra, which has a number of distinct features that recur in the Tocharian borrowings. For other loanwords, the origin is obviously Middle Indo-Aryan, but the exact details are somewhat more complicated to reconstruct.32 As examples of Middle Indo-Aryan borrowings, one may mention:

B: sakhār A: lakrī ‘sugar’ Middle Indo-Aryan, cf. Pāli sakkhāra, Shina (Dardic) šakha, Khotanese (Dardic) skhār,33 Skt. sakha- ‘ground and candied sugar’.34 [B: several occurrences,35 A: PK.NS.2 b.1.]


The loanwords from Sanskrit outnumber all the preceding groups. Furthermore, they represent different stages of the Pre-Tocharian B and Pre-Tocharian A languages, as mentioned earlier. There are numerous examples of medical ingredients, the origin of which can be more or less easily traceable to Sanskrit, e.g.,

B: ayjī ‘cumin’ = Skt. āyjī- ‘Cuminum Cymnium’.38 The B form might be either a wrong sanskritization of a Middle Indo-Aryan form or borrowed from Sanskrit directly. [PK.AS.2B b.3]

B: bai = Skt. bātā- ‘Sida Cordifolia’.39 The form is a straightforward borrowing from Sanskrit with loss of the final vowel. [PK.NS.2B a.4, a.6.]

A: āṅgama Skt. àṅgama- ‘drum stick’.40 [PK.NS.2 a.2.]

A: sāṅkapa, B: sāṅkapa Skt. sāṁkmap- ‘the tree Dalbergia Sisso’.41 The A form is most likely a borrowing from B, but the B form remains obscure, cf. Middle Indo-Aryan, Pkt. śāṅkama-.42 [A: PK.NS.2 a.2, B W 36 b.2.]

The fact that so many Sanskrit borrowings also are represented by the same word as the Sanskrit equivalent (for instance, as in the Yogasātaka bilingual) raises the question whether some of the borrowings were borrowed and adapted directly, i.e., in the contexts of translating the text from Sanskrit to Tocharian.

**Summary**

The Tocharian medical vocabulary represents a mixture of indigenous words, calques, loan translations and borrowings, where indigenous words (or, rather, indigenous words and words with no satisfactory etymologies) predominate among the terms for parts of the body affected by diseases while calques and loan translations predominate among names for diseases, and borrowings are more numerous among the ingredients used in medical recipes. The great number of borrowings, in particular from Sanskrit, is not surprising. The Tocharian medical discipline as practised, taught and learned by monks in the monasteries was heavily influenced by the Indian tradition. The texts all had Sanskrit originals and the translation and adaptation of this literature to a Tocharian context meant that new concepts, new diseases and new ingredients

26 GSR: 1078.
30 See Adams 1999, p. 182.
32 For discussion, see Carling 2005, pp. 62-4.
33 CDJAL, 715a.
34 MW, p. 1058b.
36 MW, p. 638c.
37 CDJAL, p. 470b.
38 MW, p. 10a.
39 MW, p. 722c.
41 MW, p. 1069c.
42 CDJAL, p. 719.
had to be introduced into the Tocharian language. Further, most of the ingredients, coming from plants and herbs of various kinds, did not grow naturally nor had they been introduced into the day Central Asian environment—they were imported from India (or elsewhere) and together with the import the terms were borrowed into the language.

More interesting is how free the Tocharian translation sometimes is in relation to the Sanskrit original. Apparently, the Tocharian monks developed a tradition of their own, which was more directed towards practice than theory. This means that the additions deal much more with methods of curing than causes of the diseases. The borrowings from Middle Indic-Aryan, and also, to a certain extent, Iranian languages that were spoken in various dialects in the area, indicate that the influence of new terms and practices did not only originate in written Sanskrit sources (corresponding to Greek and Latin in the Western medical tradition) but was also accompanied by an oral tradition, where local practices and local dialects had the opportunity of playing a role.

References

Abbreviations:


GSR = Karlberg, B. 1964, *Grammatica Sanskrit Recensa*, Göteborg: Elanders Bottryckeri AB.


PKAS = Tocharian manuscript from the Pelliot collection (Ancienne Série).


