

## On possible Dardic and Burushaski influence on some Northwestern Tibetan dialects

The Northwestern fringe of the Tibetan-speaking area, now forming a part of the Jammu and Kashmir state of India and of Pakistani-controlled Northern Areas, was in the past an area of intensive ethnic and language contact. This contact resulted in the linguistic assimilation of the local pre-Tibetan population by the Tibetans. More than a century ago it was hypothesized that this pre-Tibetan population may have spoken a certain Dardic language. The article attempts to check this hypothesis through the etymological analysis of the vocabulary of Northwestern Tibetan dialects. The results of this analysis suggest the existence of a significant Indo-Iranian, probably Dardic, lexical stratum, as well as of numerous lexemes borrowed from some early form of Burushaski. The author seeks to define the dialectal distribution of Indo-Iranian and Burushaski loanwords in the area under study.

*Keywords:* language contact; linguistic substratum; Tibetan dialects; Ladakhi language; Balti language; Purik language; Dardic languages; Burushaski language.

### Introduction

It is well known that the now vast and extensive Tibetan-speaking area came into being at a comparatively recent date, i.e. in the 7<sup>th</sup>–9<sup>th</sup> centuries. Its formation was the result of the expansion of the Tibetan Empire and of the subsequent spread of the Tibetan language into originally non-Tibetan territories. This fact suggests that the existence of pre-Tibetan substrata in different groups of Tibetan dialects may be hypothesized.

Such a hypothesis was probably first formulated more than a century ago by the renowned German Tibetologist August Hermann Francke for the Ladakh region. According to Francke (1907), this area situated on the northwestern fringe of historical and linguistic Tibet was populated by the two ethnic groups, namely the Mons and the Dards, in pre-Tibetan times. The exact origin of the former group remains unclear, while the Dards were considered to be related to the inhabitants of eastern Hindu Kush and western Karakoram valleys, including Gilgit<sup>1</sup>. Francke also argued that this “Dardic” population had left an ethnic trace in the Ladakh of his times, its last remnant being the dwellers of several remote villages preserving their original language (Francke 1906). These people undoubtedly belonged to the ethnic group that is nowadays called Brokpa. The Brokpas live in Ladakh to this day, residing in certain areas of Leh and Kargil districts<sup>2</sup>, and speak Brokskat, a Dardic language closely related to Shina. Although Francke’s theory was put forth very long ago and is still accepted by some Tibetologists<sup>3</sup>, no systematic attempts to verify it nor to define its linguistic implications have been made thus far. The purpose of the present article is to make a first step in this direction, and thus to throw light on the ethnic and linguistic composition of Ladakh and adjoining areas in the pre-Tibetan period.

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<sup>1</sup> A. H. Francke once supposed that the Mons could have been “an Indian tribe” (Francke 1907: 20). The term “Dards”, nowadays denoting the speakers of Dardic languages, in Francke’s times was used mainly geographically and could be applied e.g. to Burushaski-speakers and even to the Tibetan-speaking population of Baltistan.

<sup>2</sup> Both districts are now part of the Jammu and Kashmir state of India.

<sup>3</sup> Among recent publications see e.g. Zeissler 2010.

## Testing Francke's hypothesis

First of all, it should be noted that the above-cited theory can hardly be accepted in full because it seems to contradict certain linguistic facts. The etymological study of Brokskat vocabulary yields us some hints as to the Brokpa people's past, and what we learn from these data seems to be inconsistent with some of Francke's ideas. The Brokskat lexicon contains a considerable number of Persian and Arabic loanwords, some of which were attested in the earliest descriptions of the language made by European scholars, cf., e.g., *qodā* (Shaw 1878: 46), *khodā* (Francke 1905: 94) 'god' < Persian *χodā*; *barkhad* 'blessing' (Francke 1905: 101) < Persian *barakat* < Arabic; "*nasīb*" 'fate' (Shaw 1878: 46) < Persian *nasīb* < Arabic; *darbār* 'assembly' (Francke 1905: 96) < Persian *darbār* '(royal) court, assembly'. The presence of such loanwords cannot be attributed to the influence of Urdu, the present-day official language of the area. It was only in the second decade of the 20<sup>th</sup> century when the actual spread of Urdu in different spheres of social life began in Ladakh. So this language was not widely known and used in the region at the time of Francke's fieldwork (i.e. between 1896 and 1909), not to mention the period when the author of the first grammatical sketch of Brokskat, Robert Barkley Shaw,<sup>4</sup> served in Ladakh as the British joint commissioner. Anyway, even the influence of the official language can hardly convincingly account for the borrowing of Persian and Arabic religious terms<sup>5</sup> into a dialect whose speakers are Buddhists. The most plausible explanation for this astonishing fact is probably the assumption that the Brokpas had been, if not Muslims themselves, at least strongly influenced by Islamic culture<sup>6</sup> before migrating to Ladakh and converting to Tibetan Buddhism in this region. In such a case, however, the Brokpa migration can by no means predate the Tibetan conquest of the 8<sup>th</sup> century.

It is noteworthy in this connection that the Brokpas, according to their own historical tradition, migrated to Ladakh from Gilgit (Francke 1907: 37–38). This story, however, should not be taken at face value. Glottochronological calculations show that Brokskat separated from the closely related Shina early in the 1<sup>st</sup> millennium A.D. (Kogan, Vasilyev 2013), while there is strong reason to believe that the language of the Gilgit valley was at that time Burushaski (Jettmar 1975). The geography and chronology of the Brokpas' migrations is still a puzzling issue, but what can be stated with certainty at the current state of our knowledge is that their movement to the present-day habitat could not have immediately followed the split of Proto-Shina-Brokskat, but must have been separated from the latter by many centuries.

## Revisiting the issue of Tibetan-Dardic contact

It can be plainly seen that the above facts are hardly consistent with Francke's hypothesis that pre-Tibetan inhabitants of Ladakh were the ancestors of the modern Brokpas. But does this really mean that the issue of Dardic ethnic and linguistic substratum in the area is no longer relevant? There are some reasons to answer this question in the negative. Archaeological excavations, conducted under Francke's guidance, showed that prior to the expansion of the Tibetans, Ladakh was populated by people belonging to the Caucasoid race and possessing certain

<sup>4</sup> This sketch is included in the above-mentioned work (Shaw 1878). R. B. Shaw lived in Ladakh and collected Brokskat material in 1870s.

<sup>5</sup> In addition to the foregoing examples we may quote e.g. *šaitān* 'demon' < Persian *šaitān* 'devil, Satan' < Arabic.

<sup>6</sup> The use of Persian as a literary language, along with the use of Arabic as the language of religion, is the characteristic feature of Muslim culture in the region in question. That is why the presence of certain Persian borrowings in Brokskat may also be considered as evidence of the erstwhile influence of Islam on its speakers.

cultural traits, e.g. burial practices, similar to those of the Dardic- and Burushaski-speaking population of the Hindu Kush and Karakoram valleys (Francke 1906; 1907). This cultural and physical-anthropological similarity is, strictly speaking, of no relevance to comparative linguistic studies, but nevertheless, it might well have resulted from ethnic affinity, which in many cases implies genetic relationship of languages. In this regard it should also be pointed out that the easiest route of migration into Ladakh is along the Indus, i.e. either from the South-East, where the population is linguistically Sino-Tibetan and belongs to the Mongoloid race, or from the North-West, where the people speak Dardic languages and Burushaski, and are racially Caucasian. This fact alone suggests that the existence of Dardic and/or Burushaski ethnic elements in pre-Tibetan Ladakh as well as Dardic and/or Burushaski substrata in the local Tibetan dialects can by no means be ruled out.

The possibility of Dardic- and Burushaski-Tibetan language contact is also supported by certain typological peculiarities of Northwestern Tibetan dialects. They possess a number of features at different levels of language structure, which bring them closer to the languages of the Hindu Kush-Karakoram region, as opposed to Old and Classical Tibetan. In Ladakhi<sup>7</sup> such features include the presence of cerebral consonants (stops and sibilants), the threefold contrast of deictic pronouns (cf. *i*, *di* ‘this’, *ote* ‘that (within sight)’, *te* ‘that (out of sight)’<sup>8</sup> vs. the twofold opposition *’di* ‘this’ – *de* ‘that’ in Classical Tibetan), and the word order where a demonstrative pronoun precedes the noun it modifies (cf. *te khi* ‘that dog’ vs Classical Tibetan *khyi de*). It is worth noting that the aforementioned typological traits are also characteristic of the Tibetan varieties spoken to the North and West of Ladakh and conventionally grouped under the names Balti and Purik<sup>9</sup>. Moreover, these varieties show certain additional “non-Tibetan” traits shared by the Dardic languages and Burushaski, namely, cerebral affricates<sup>10</sup> and the typical position of an adjective before the noun it qualifies (cf. Balti, Purik *di čhogo nakpo khi* ‘this **big black** dog’ vs Classical Tibetan *khyi nag-po chen-po ’di*)<sup>11</sup>.

It should, however, be understood that the above features alone can hardly be a decisive argument in favor of Dardic or Burushaski influence. Most of them are found in many lan-

<sup>7</sup> The term “Ladakhi”, as it appears in literature, seems to be somewhat ambiguous. It may be used for the dialect of Leh, the political center of Ladakh, as well as for all the Tibetan dialects spoken in the Leh district of Jammu and Kashmir. The features listed here are, however, found in all or most of the Ladakhi dialects.

<sup>8</sup> Similar systems are found in Dardic languages. Cf., e.g., Kashmiri *yi* ‘this’, *hu* ‘that (within sight)’, *su* ‘that (out of sight)’; Khowar *haiya* ‘this (near, present)’, *hes* ‘that (remote, present)’, *hasa* ‘that (more remote, absent)’; Pashai *ae(m)* ‘this’, *(a)sə* ‘that (within sight)’, *o(m)* ‘that (anaphoric)’ (Grierson 1919; Morgenstierne 1967).

<sup>9</sup> Historically Balti was the name of the Tibetan dialect spoken in and around the town of Skardu, nowadays the capital of the district with the same name in the Gilgit-Baltistan territory of Pakistan. The name Purik (or Purki) was traditionally used for the dialect of the Kargil town and its environs, now in the Indian state of Jammu and Kashmir. The speakers of these two and a number of adjoining dialects are, unlike Ladakhis and Tibetans, Muslims by religion, and at present the names Balti and Purik are sometimes used as umbrella terms for Tibetan varieties spoken by the Muslim population of Pakistani-controlled Gilgit-Baltistan and Indian-controlled Kargil district respectively.

<sup>10</sup> Balti, Purik and Ladakhi cerebrals (stops, affricates and sibilants) in inherited words usually reflect certain Old Tibetan consonantal clusters.

<sup>11</sup> One more feature, alien to other dialects, is found in Balti and Purik verbal systems. It is the use of the imperative stem for forming the Prohibitive. In the rest of Tibetan the latter is formed from the present stem. The German scholar Bettina Zeissler attributes this peculiarity of Muslim varieties to the substratum interference (Zeissler 2004: 344–345). Anyhow, this feature also unites both Purik and Balti with Burushaski and Dardic languages. It is remarkable that in this case linguistic typological similarity is coupled with the cultural and physical-anthropological one. Balti- and Purik-speakers share with their non-Tibetan western and northern neighbors not only a common religion, i.e. Islam, but also many traits of material culture and to some extent even a common racial type, a significant fraction of them being Caucasians.

guages belonging to different language groups and families, e.g. Indo-Aryan, Iranian or Dravidian, while some are characteristic of larger world regions<sup>12</sup>. The most convincing evidence for intensive contact between particular languages is undoubtedly not typological similarity but the existence of numerous common lexical isoglosses. The issue of possible non-Tibetan influence on the vocabulary of Northwestern Tibetan dialects is still extremely poorly studied<sup>13</sup>. In the past the main cause of such a situation was the lack of material. Nowadays things have changed. Dictionaries of Balti (Sprigg 2002) and Ladakhi (Abdul Hamid 1998; Norman 2010) dialects, compiled and published within the last 20-odd years, can provide a relatively rich lexical material. In the following section I list the results of the etymological study of this material, conducted with a view to identifying possible Burushaski and Indo-Iranian<sup>14</sup> elements in it.

As the main data sources I used Richard Keith Sprigg's "Balti-English English-Balti dictionary" (Sprigg 2002) and "A dictionary of the Language Spoken by Ladakhis" by Rebecca Norman (Norman 2010). The latter dictionary, unfortunately, available only as an unpublished draft, contains a wealth of lexical data not only from Ladakhi but also from the Purik and Balti dialects. For the Purik data, "A grammar of Purik Tibetan" by Marius Zemp (Zemp 2018) was also consulted. Words of supposedly Burushaski or Indo-Iranian origin, found in these sources, were checked for etymological parallels in other varieties of Tibetan. For this purpose Heinrich August Jäschke's Tibetan-English dictionary (Jäschke 1881) was employed. It includes a good number of lexical items, peculiar to western regions of linguistic Tibet. All such items are marked with specific labels, e.g. *Bal.* (Balti), *Ld.* (Ladakh), *Lh.* (Lahaul), *Pur.* (Purik), *W.* (Western Tibet). The absence of one of these labels in a particular entry is likely to suggest that the area of geographical distribution of the respective lexeme is not confined to Western Tibet, and its being borrowed from a language of the Hindu Kush-Karakoram region does not thus seem probable. Naturally, such lexemes were not included in the following list. Sources of Burushaski, Dardic and Iranian material are specified in each entry of the list. Indo-Aryan and some Dardic etymologies were taken from "A comparative dictionary of the Indo-Aryan languages" by R.L. Turner (Turner 1966).

### A list of possible Indo-Iranian and Burushaski loanwords in Northwestern Tibetan dialects

1. Balti *ashi* 'responsibility, someone responsible', *ashipa* 'owner, master, husband, Lord' (Sprigg 2002: 22), Purik *ashipa* 'owner, husband (said by the wife)' (Norman 2010: 1081). Cf. Burushaski (Nagir) *di-ási* 'überlegen sein, überwältigen' (Berger 1998b: 23).

<sup>12</sup> This holds true for the word order in the noun phrase with demonstratives and adjectives preceding the noun.

<sup>13</sup> This is particularly the case with the dialects of Ladakhi. On Balti and Purik some research has been done which demonstrated the existence of a number of lexical isoglosses common to these varieties and Burushaski (Lorimer 1939; Zemp 2018).

<sup>14</sup> I intentionally do not confine myself to detecting possible Dardic loanwords only. Dardic is not the only branch of the Indo-Iranian subfamily, to which the languages, that have influenced Northwestern Tibetan dialects, may have belonged. Some Indo-Aryan languages are spoken in Western and Central Himalaya to the southwest of Ladakh, and the population of the western part of the present-day Xinjiang, bordering upon Ladakh and Gilgit-Baltistan, was in the past Iranian-speaking. For this reason, the presence of Indo-Aryan and Iranian (other than Persian) borrowings in Ladakhi, Purik and Balti cannot be ruled out. It should, however, be kept in mind that the Northwestern Tibetan regions are much more easily accessible from the Dardic-speaking area, than from the Iranian and Indo-Aryan-speaking ones, the latter two being separated by the world's highest mountain ranges, the Himalaya and the Karakoram.

2. Ladakhi *asur* ‘mustard seed as a spice used in Ladakhi pickle’ (Norman 2010: 1073). Cf. OIA *āsūrī* ‘*Sinapis ramosa*’, Sindhi *ahuri* ‘mustard seed’, Lahnda *ôhur*, *ahūr*, *āhur*, Punjabi *āhur*, Hindi-Urdu *āsūrī* ‘mustard’, Kashmiri *āsoru* ‘mustard plant, *Sinapis ramosa*’ (Grierson 1915–1932: 51).

3. Balti *baan* ‘man or men who sing religious songs and foretell the future’ (Sprigg 2002: 24). Cf. Kashmiri *wan-*, Indus Kohistani *ban-* ‘to say’, Kalasha *bandek* ‘1. to teach; 2. to announce so as to inaugurate, to order or command’ (Trail, Cooper 1999: 27), OIA *vandate* ‘praises, worships’, Av. *vañd-*, Khotanese *van-*, Parthian *wynd-* ‘to praise, honor, worship’.

4. Balti *balbul* ‘tepid’ (Sprigg 2002: 25), Ladakhi *mala-mule* ‘lukewarm, tepid’ (Norman 2010: 687). Jäschke 1881: *mal-la-mul-le* Ld. lukewarm, tepid. Cf. Burushaski *bulbulo* ‘lukewarm (of water)’ (Lorimer 1938: 87), Shina *būbūlū* ‘tepid’ (Bailey 1924), Indus Kohistani *bubūl* ‘lukewarm (water)’ (Zoller 2005: 315).

5. Balti *bar-ban* ‘window (in a wall), glass-pane window’ (Sprigg 2002: 26), Purik *barban* ‘window’ (Zemp 2018: 945). Cf. Brokskat *barban* id. The element *bar-* is probably connected with PII *\*dwar-* ‘door’ (cf. OIA *dvār-* ‘door, gate’, Av. *duuar-* ‘gate’). In many Dardic languages the derivatives of this root have the meaning ‘window’: Pashai *darī*, Gawar-Bati *derī*, Kalasha *durík*, Phalura *darúri*, Indus Kohistani *darī*, Shina *daríi*, Kashmiri *dār*. Cf. also Burushaski *dari* ‘window’ (Lorimer 1938: 114). The element *-ban* may be etymologically identical to Balti *ban* ‘fence’ (Sprigg 2002: 25), which also seems to be of Indo-Iranian origin (cf. OIA *bandha-* ‘border, framework, damming’).

6. Balti *basanda* ‘dandelion’ (Sprigg 2002: 27). R.K. Sprigg compares this word with Hindi-Urdu *basantī* ‘yellow (the color of spring blossoms, such as those of the mustard-plant)’. This etymology, however, implies the unexplained loss of the final long *ī* by borrowing. From the viewpoint of historical phonology, the more probable source of the Balti lexeme seems to be an Indo-Iranian form related to OIA *vāsanta-* ‘vernal, pertaining to spring’ (with subsequent semantic change ‘vernal’ > ‘a spring flower’ > ‘dandelion’). Cf. also OIA *vasanta-*, Shina *bazōn*, Phalura *basānd*, Bashkarik *basan*, Torwali *basān*, Kalasha *bāsun*, Khowar *bosun*, Pashai *wahān(d)*, Gawar-Bati *wasand* ‘spring’.

7. Balti *bat* ‘boiled mixture of germinated grain flour and ordinary flour (made during Ramzan)’ (Sprigg 2002: 27). Cf. OIA *bhakta-* ‘food; boiled rice’, Khowar *bot* ‘evening meal’, Kalasha *batay* ‘flour taken to be eaten in high pastures’ (Trail, Cooper 1999), Shina *bat*, Bashkarik *batt*, Torwali *bāt*, Kashmiri *bati*, Lahnda, Punjabi *bhatt*, Hindi-Urdu, Nepali, Gujarati, Marathi *bhāt* ‘boiled rice’, Burushaski *brase bat* ‘plain, boiled rice’, *alue bat* ‘mashed potatoes’ (Lorimer 1938: 73), Wakhi *bat* ‘wheat flour gruel’, Ishkashimi *bat*, Shughni *bāt*, Munji *bātāk* ‘ritual food made of wheat flour and butter, cooked in water or milk’ (Steblin-Kamensky 1999: 95).

8. Balti *bekar* ‘court singer and dancer who improvises poems and songs’ (Sprigg 2002: 28), Ladakhi *beda* ‘member of the caste that used to be itinerant musicians’, *bemo* f. (Norman 2010: 640–641). Jäschke 1881: ‘*be-dha* a class of itinerant musicians W. Sprigg compares the Balti word with Hindi-Urdu *bhik(h)ārī* ‘beggar’, which does not seem semantically convincing, and in addition implies the unnecessary separation of Balti and Ladakhi forms. All the three words in question are clearly derivatives of a common root sounding as *be-*.<sup>15</sup> This root might have been borrowed from some Indo-Iranian language where it was a reflex of PII *\*wād(i)ya-* ‘music, musical instrument’ (cf. OIA *vādya-* ‘musical instrument, music’, *vādyakara-* ‘musician’, *vādayati* ‘plays a musical instrument’, Punjabi *vajjā* ‘musical instrument’, Hindi-Urdu *bājā* ‘music’, Kashmiri *waz-* ‘to sound (of bell, clock etc.)’, *wāy-* ‘to play a musical instrument’, Shina (Guresi) *baž-* ‘to strike (of a gong etc.)’, Ossetic *wadyñz* ‘flute, panpipe’ < *\*vādāničī* (Abaev 1989: 35)).

<sup>15</sup> In Ladakhi *-mo* is a productive suffix indicating the female gender.

The phonological development in the donor language seems to have passed through the intermediate stage *\*bāiṣya-* with the change *\*w > b*<sup>16</sup> and the drop of intervocalic *d*. Both processes are characteristic of many Indo-Iranian languages of the region. Burushaski *berits* ‘musician, bandsman; craftsman’ (Lorimer 1938: 75) may also contain the aforesaid root.

9. Balti (Khaplu dialect) *boṣoq* ‘calf’ (Norman 2010: 604). Cf. Burushaski *buṣóoṣo* (Hunza, Nagir), *bóṣo* (Yasin) id. (Berger 1998b: 65). It is evident that the Balti word is phonologically closer to the Burushaski ones than to Tibetan *be-to* ‘calf’.

10. Balti *bwaar* ‘watermelon’ (Sprigg 2002: 35). Cf. Shina *buār* (Bailey 1924), Burushaski (Hunza, Nagir, Yasin) *buar* id. (Berger 1998b: 60).

11. Balti, Purik *cancan*<sup>17</sup> ‘naked’ (Sprigg 2002: 40; Zemp 2018: 926; Norman 2010: 288). Cf. Khowar, Kalasha *čan* id.

12. Ladakhi *cancil, chancil* ‘the green outer shell or fruit of walnut’ (Norman 2010: 267). Jäschke 1881: *can-cil* W. the green shell of a walnut. Cf. Burushaski *čanjil*<sup>18</sup> (Nagir, Hunza), *čanjil* (Yasin) ‘die grüne äussere Schale der Walnuss, Häutchen zwischen den Teilen des Walnusskerns’, Shina *cháćil* id. (Berger 1998b: 96).

13. Balti *cangti* ‘drop’, Purik, Ladakhi (Shamskat and Leh dialects) *cangti* ‘leak in a roof’ (Norman 2010: 267). Cf. Burushaski *čan man-*, Shina *cháčan-* ‘(Wasser) sickern, herabfliessen’ (Berger 1998b: 97).

14. Balti *ceri*, Ladakhi *cari* ‘bedbug’ (Sprigg 2002: 41; Norman 2010: 266). Jäschke 1881: *ca-ri* W. bug. Cf. Khowar *čari* id., Burushaski *čari, čiri* ‘Heimchen, Grille’ (Berger 1998b: 86, 89), OIA, Pali *cīrī* ‘cricket’.

15. Balti *cha* ‘millet’ (Sprigg 2002: 41), Ladakhi (Shamskat dialect) *cha* ‘a variety of millet, a cereal grain which was grown in Ladakh in the past, but very little now’ (Norman 2010: 290). Cf. Burushaski *cha* (Nagir, Hunza), *ča* (Yasin) ‘Hirse, Kolbenhirse, Setaria italica’ (Berger 1998b: 95).

16. Balti, Purik *chal* ‘overflow, spill over’, Ladakhi (Leh and Shamskat dialects) *chal-ces* ‘to splash, to spill over’ (Sprigg 2002: 41; Norman 2010: 297). Cf. OIA *kṣarati, kṣalati* ‘flows, trickles’, *kṣālayati* ‘washes’, Proto-Iranian *\*xšar-* ‘to flow’<sup>19</sup> (> Persian *šārīdan* ‘to trickle’, (*āb*)*šār* ‘waterfall’, Ossetic *äxsärdzän* ‘waterfall’ (< *\*xšar-čana-*), Middle Persian *Xšart* ‘the river Jaxartes’ (Livshits 2003)), Kashmiri *čhalun* ‘to wash’, *čhar* ‘a sprinkle of water etc. from the fingers’, Gawar-Bati *čhār* ‘rapids in a stream’, Phalura, Indus Kohistani *čhār*, Bashkarik, Kalasha *učhār*, Shina *čhar* ‘waterfall’.

17. Balti *chon* ‘vain’ (Sprigg 2002: 43), Purik *chon* (“tʰon”) ‘useless, in vain, unfounded’ (Zemp 2018: 109), Ladakhi *chon* ‘spontaneously, for no reason, gratuitously; in vain, for nothing, to no avail, useless; free, for free, at no cost’ (Norman 2010: 310). Jäschke 1881: *chon* W. useless, to no purpose. Cf. Burushaski *čan* (Hunza), *čan* (Yasin) ‘leer (Schüssel), unterbeschäftigt, ohne Arbeit, frei’ (Berger 1998b: 106), Shina *čhon*, Phalura *čheniko*, Bashkarik *čan*, Kashmiri *čhon*, Gawar-Bati *čhēnika*, Pashai (Kurangali dialect) *čhāni* ‘empty, void’. R. L. Turner (1966: 189) compares the Dardic words with the reconstructed OIA verb *\*kṣaṇati* ‘is sifted, is strained, falls’. Semantically, however, this comparison does not seem convincing. The vowel *o* in the Ladakhi, Balti and Purik forms does not indicate that the source of borrowing must necessarily

<sup>16</sup> This is not the only example of this change in our material. On the same process, see s.v. *baan* and *basanda*.

<sup>17</sup> For transcribing Northwestern Tibetan words the standard Tibetological transcription is used with *c* and *ch* conveying voiceless palatal and voiceless palatal aspirated affricate respectively, and *ts* and *tsh* standing for their dental counterparts. Dardic and Iranian material is transcribed in another way: *č, čh* mark palatal affricates and *c, ch* are used for dental ones.

<sup>18</sup> In H. Berger’s notation *ć* and *čh* stand for Burushaski voiceless palatal and voiceless palatal aspirated affricate respectively.

<sup>19</sup> On this Iranian root see e.g. Rastorgueva, Edelman 2007.

have been the Shina or Kashmiri word. It may be the result of an independent phonological change in the donor language (cf. the change  $a > o$  before  $n$  in the above-cited Balti word *tshon* ‘injury’).

18. Balti (Skardu dialect) *chum* ‘bunch; muscle of thigh’ (Norman 2010: 318). Cf. Burushaski *ču* ‘ear (of corn), bunch (of grapes)’ (Lorimer 1938: 101), Indus Kohistani *cuī* ‘a bunch of grapes or other fruits’ (Zoller 2005: 166).

19. Balti, Purik, Ladakhi *culi* ‘apricot’. Jäschke 1881: *cu-li, co-li* W. ‘a fresh apricot’. Cf. Burushaski *ju*, Shina *joroiti*, *žūri*, Khowar *žūli*, Gawar-Bati *žižorī*, Kashmiri *cēr*, Kati *cirə*, Askun *cirā*, Prasun *čirē*, Wakhi *čwan*, Ishkashimi *čwewend*, Munji *čirəy* ‘apricot’.

20. Ladakhi *darak*, Purik *deraq* ‘stiff, hard’ (Norman 2010: 438). Cf. Kashmiri *dor* ‘firm, hard, strong, compact, durable, solid’, *darun* ‘to become steady (of something in motion), to become firm, to stand steady’ (Grierson 1915-1932: 238, 246), Pashai *d(h)ar-*, Wotapuri *dar-*, Phalura *dháara-* ‘to remain, stay’, Torwali *dērī* ‘they remained’, Khowar *dorik* ‘hold back, wait, keep’, Hindi, Punjabi *dharnā* ‘to keep’, Gujarati *dharvū* ‘to hold, catch’, OIA *dhārayati, dharati* ‘holds, keeps’, Avestan *dāraiiēhi* ‘(you) hold’. The prototype of the Ladakhi and Purik word in the donor language may be reconstructed as *\*dāraka-* (< PII *\*dhāraka-*). It is not quite clear if Balti *ḍalaq* ‘stiff, hard (of leather, cloth)’ (Sprigg 2002: 183) could have been borrowed from the same source.

21. Balti *ḍen* ‘sulphur’ (Sprigg 2002: 183). Cf. Burushaski *dāncil* ‘Schwefel, findet sich in Schwefelquellen, die als heilkräftig gelten’, Shina *dančál* id. (Berger 1998b: 114). The Shina word may be a loan from Burushaski. The final element *-čil* in Burushaski is probably etymologically identical to *čil* ‘water’. The original meaning of the Burushaski word may thus have been ‘water of a sulphur spring’.

22. Balti *ḍiangs* ‘hard (of soft things that have become hard, bricks, food, etc.)’ (Sprigg 2002: 183). Cf. Burushaski *ḍaṅ* ‘hard’ (Lorimer 1938: 112), Khowar *ḍaṅ* id.

23. Ladakhi (*l*)*ḍim*, Purik *ḍim* ‘trunk (of a tree), stem (of a plant)’ (Norman 2010: 473), Balti *ḍim(s)* ‘trunk (of a tree)’ (Sprigg 2002: 183). Jäschke 1881: *drim* ‘stump, trunk, of a tree or plant deprived of top and branches’ *Ld.* Cf. Burushaski *-ḍim* ‘Körper, Person, Selbst, (Nagir) Halm (des Getreides)’ (Berger 1998b: 132), Shina *ḍim* ‘body, trunk of tree’ ([Bailey 1924], Indus Kohistani *ḍim* ‘body (of a living being)’ (Zoller 2005: 223), Khowar *ḍim*, OIA *ḍimba-* ‘body’.

24. Balti (Skardu dialect) *dom* ‘sadness, trouble, difficulty, adversity’ (Norman 2010: 493). Cf. Shina *dāmizhār* ‘adversity, trouble’ (Bailey 1924), Burushaski *ḍam(i)jar* ‘trouble, inconvenience, worry’ (Lorimer 1938). The Shina word is most probably the source for the Burushaski one, and may be related to OIA *damayati* ‘tames, subdues’, Ossetic *domyn* ‘to tame; exhaust; demand’.

25. Balti *ḍuhum, ḍuhung* ‘large hole in a field, old tree, among rocks’ (Sprigg 2002: 183). Cf. Bashkarik *ḍoñ* ‘hole’ (Morgenstierne 1940), Indus Kohistani *ḍuñg* ‘a pit, hole (in the earth), depression, hollow’ (Zoller 2005: 223).

26. Ladakhi *Galcik, galcik, galtsik, rgalcik, (G)alcilik* ‘lizard’ (Norman 2010: 214).<sup>20</sup> Jäschke 1881: *rgag-cig* a large grey species of lizard *Ld.* Cf. Burushaski *ḡárqas, ḡálqas* ‘Eidechse’ (Berger 1998b: 172), *ḡalgú* (Hunza, Nagir), *ḡalgó* (Yasin) ‘Würmchen, Larve, Made, Raupe’ (Berger 1998b: 167). Also cf. the following word.

27. Ladakhi *galto, galṭo* ‘centipede (Shamskat dialect), a big type of spider (Leh dialect)’ (Norman 2010: 214). Cf. Burushaski *galtaṣ* ‘centipede’ (Lorimer 1938: 159), Shina *galaác*, Indus Kohistani *galāṣ*, Phalura *kalighāṣ* id. (Zoller 2005: 141).

28. Balti, Purik *gaṭ* ‘knot, joint of body’ (Sprigg 2002: 58; Zemp 2018: 64), Ladakhi (Leh dialect) *changgat* ‘knee-joint’ (Norman 2010: 313). Cf. OIA *granthi-* ‘knot’, *granthayati* ‘ties’,

<sup>20</sup> In Norman’s transcription G is used to denote voiced uvular fricative.

Hindi, Bengali, Marathi, Gujarati *gāṭh*, Punjabi, Lahnda *gaṇḍh*, Sindhi *g'aṇḍhi*, Middle Persian *grih*, Persian *giriḥ*, Khotanese *grratha*, Soghdian *γr'nš*, Ishkashimi *γureṣ*, Ossetic *ælxync'*, Kalasha, Phalura *grhēṇḍ*, Indus Kohistani *gār*, Brokskat *gaṭhi* 'knot', Pashai *gaṭanā* 'joint', *gaṭh*- 'to tie', Burushaski *gaṭ* 'Knoten (auch im Stengel von Pflanzen), Knöchel (des Fingers)' (Berger 1998b: 150). Ladakhi *gat* 'obstacle, tripping up' (Norman 2010: 241) may also belong here.

29. Purik *gaṭo* 'half-roofed daytime pen for cows, horses, etc.', Ladakhi (Western subdialects of Shamskat *gaṭo* 'cattle yard or pen, corral' (Norman 2010: 159). Originally 'a place where cattle are collected'? Cf. Burushaski *gaṭi* 'assembled, collected, together' (Lorimer 1938: 164), Shina *gāṭi* 'together'.

30. Balti *gra-a*, Purik *gra*, 'goitre' (Sprigg 2002: 68; Norman 2010: 247). Cf. Shina *gaáro*, Burushaski *gáaro* id. (Berger 1998b: 164). It is not quite clear if the Shina and Burushaski words are connected in any way with OIA *gaḍu-* 'excrescence on neck, goitre, hump on back', Khowar *gurūli*, Kashmiri *gaḍur* 'goitre'.

31. Balti *gzar* 'to flow' (Sprigg 2002: 72), Purik *zar* id., Ladakhi *zar-ces*, *dzar-cas* 'to drip, to run down, to trickle out' (Norman 2010: 790). Cf. Av. *γžar-* 'to flow', Ossetic *žzælyn* 'to pour down, drip', OIA *jhara-* 'waterfall', *jarī* 'river', Prakrit *jharāi* 'drips', Hindi *jharnā* 'to ooze, trickle away' < PII \**gjhar-* < PIE \**d<sup>h</sup>g<sup>wh</sup>er-*<sup>21</sup> (Cheung 2007: 124).

32. Purik *yut*, Ladakhi *gut* 'deaf, a deaf person; feeble, weakened', Balti *gut* 'mute' (Norman 2010: 215). Cf. Burushaski *yuṭ* 'taub', *yoṭ* (Yasin) 'stumm' (Berger 1998b: 182), Shina *kūṭu* 'deaf' (Bailey 1924).

33. Balti *hal* 'goal (sports)' (Norman 2010: 1064; Sprigg 2002: 74). Cf. Burushaski *hála* (Hunza, Nagir), *hal*, *hálu* (Yasin) 'Tor (beim Polo)', Shina *hal*, Khowarp *haḷ* id. (Berger 1998b: 187).

34. Balti *hal* 'strength', *halcan* 'fine, strong, well-fed, healthy (animals)' (Sprigg 2002: 74), Ladakhi *halcan* 'robust, strong, healthy' (Norman 2010: 1058). Jäschke 1881: *hal-med* W. weak. Cf. Burushaski *halél*, Shina *halal* 'Fett' (Berger 1998b: 187).

35. Balti *handam* 'deaf and dumb' (Sprigg 2002: 74), Purik *handan* 'deaf, dumb' (Zemp 2018: 72), Ladakhi *handang*, *handang* 'stunned, speechless; mute, unable to speak; mentally retarded, mentally disabled' (Norman 2010: 1057). Jäschke 1881: *han-ldang* W. 1. dumb, mute. — 2. imbecile, weak of mind. Cf. Burushaski *han ḍam* 'simple and stupid, honest and simple' (Lorimer 1938: 193), *handám* 'einfaltig, treuherzig-dumm, Einfaltspinsel', Shina *handám* id. (Berger 1998b: 189).

36. Ladakhi (Shamskat dialect) *harip* 'a musical instrument with an oboe-like double reed, used for non-religious music' (Norman 2010: 1055), Balti *harip* 'special kind of music played in the palace courtyard before a polo match' (Sprigg 2002: 75). Jäschke 1881: *ha-rib* Ld. music. Cf. Burushaski *hərip* 'music, tune' (Lorimer 1938), Shina *hārip* 'Şiṇā music' (Bailey 1924), Indus Kohistani *haríp<sup>h</sup>* 'a tune, melody' (Zoller 2005: 409).

37. Balti *haritham* 'small centipede' (Sprigg 2002: 75). Jäschke 1881: *ha-ri-tsam* Pur. centipede. Cf. Burushaski *híriman* (Hunza, Nagir), *hírmen* (Yasin) 'Insekt, dem Tausendfüssler ähnlich' (Berger 1998b: 200). The etymological connection between the Balti and Burushaski words is highly probable, although their exact prototype is not quite clear.

38. Balti *kaḍik* 'small branches' (Sprigg 2002: 82), Ladakhi *kaṭik* 'branches and leaves of trees as fodder for animals in the spring' (Norman 2010: 4). Cf. Kati *kāṭ* 'branch', Kalasha *kaṭ* 'board' (Trail, Cooper 1999), Shina *kāṭ* 'wood', Kashmiri *kāṭh* 'wood', *kāṭh* 'small stick', Lahnda, Punjabi, Hindi-Urdu, Kumauni, Nepali, Gujarati *kāṭh*, Sindhi *kāṭhī* 'wood', др.-инд. *kāṣṭha-* 'piece of wood', *kāṣṭhikā-* 'small piece of wood'.

<sup>21</sup> PII \**gjhar-* and PII \**kšar-* (> OIA *kšar-*, Proto-Iranian \**xšar-*) may reflect two different variants of the same Proto-Indo-European root (Rastorgueva, Edelman 2007).

39. Ladakhi, Purik *kale* ‘revenge’ (Norman 2010: 79; Zemp 2018: 940]. Cf. Kashmiri *kal* ‘longing, regret, yearning; worry, worrying, anxiety; thought, consideration, calculation’ (Grierson 1915–1932: 433), Shina, Burushaski *káalan* ‘Erwägung, Berücksichtigung’ (Berger 1998b: 237), Shina *kalyóik̄i* ‘count, number, consider as abuse’ (Bailey 1924: 146), Indus Kohistani *kālāō* ‘to count’ (Zoller 2005: 107–108), OIA *kalayati* ‘counts, thinks’. For the semantic change ‘to count’ > ‘to revenge’ cf. the English idiom *to square accounts* or the verb *to reckon* in the meaning ‘to settle scores’, cf. also Russian *rasschitat’s’a* (*рассчитаться*) ‘to retaliate’ with the same root as *schitat’* (*считать*) ‘to count’. It cannot be ruled out that the immediate source of Ladakhi and Purik *kale* in the donor language was semantically influenced by some cognate of Shina *kāl̄i* ‘fighting’ (Bailey 1924: 146), Indus Kohistani *kāȳli* ‘a fight; a war’ (Zoller 2005: 101) and OIA *kali-* ‘strife, quarrel’.

40. Purik, Ladakhi *kares*, *karas* ‘a local type of pea with three corners’ (Norman 2010: 6). Cf. Burushaski (Hunza, Nagir, Yasin) *gark* ‘Erbsen’, *γarāš* ‘Lathyrus sativus Linn., eine Saatplatterbse’ (Berger 1998b: 148, 170), OIA *kalāya-* ‘a sort of pea’, Nepali *kerāu* ‘pea’, Hindi-Urdu *kerāw*, *kirāu* ‘Pisum arvense’, Kashmiri *kar̄i* ‘the pea Pisum sativum’.<sup>22</sup> Ladakhi *kerze* ‘lentils’ (Norman 2010: 16) may also belong here. The final element *-ze* in this word is probably etymologically identical with the Classical Tibetan suffix *-ze* found, e.g. in *bram-ze* ‘Brahmin’ (< OIA *brāhmaṇa-*), *zhim-ze* ‘sweetmeats’ (cf. *zhim-pa* ‘well-tasted, sweet-scented’).

41. Purik *karkaṭi*, Ladakhi (Western subdialects of Shamskat dialect) *khaskhaṭi*, ‘ant, ants’ (Norman 2010: 111). Cf. Burushaski (Nagir, Hunza) *karaáto* ‘Art Insekt’ (Berger 1998b: 242), *karklanas* ‘a kind of spider (which has a big body and long legs and bites)’ (Lorimer 1938: 229), Shina *karaáto* ‘Art grosse giftige Spinne’ (Berger 1998b: 242), Khowar *kroyunu* ‘large biting bug’. A contamination of two phonetically similar but etymologically different words may have taken place in the donor language.

42. Balti *kelak*, *kyalak* ‘twisted’ (Sprigg 2002: 82). Cf. Tirahi *kóola*, Pashai *kōlā*, Shumashti *kolāṅṅa*, Khowar *koli*, Bashkarik *kōl*, Torwali *kōl*, Phalura *kūulo*, Shina *kōlu* ‘curved, crooked’ < Proto-Dardic, PII *\*kaula-* (> Proto-Iranian *\*kaura-* > Khotanese *kūra-* ‘crooked’ (Bailey 1979: 62)). The prototype of the Balti word in the donor language may have sounded *\*kaulak* or *\*kolak* and reflected an old formation with the *-k-* suffix. The irregular development of the first syllable vowel is probably due to the influence of some derivative of Tibetan *’khyil-ba* ‘to wind, to twist’.

43. Balti (Skardu) *khila*, *khela*, Purik *khila* ‘sandals’ (Norman 2010: 155). Cf. Indus Kohistani *kharpā* ‘wooden sandals’ (Zoller 2005:121), Kashmiri *khraṅv*, Punjabi, Hindi-Urdu *kharaṅū*, Nepali *kharāu* id. < *\*kāṣṭhapādukā-* (Turner 1966: 159).

44. Balti (Skardu dialect) *khudu*, (Khaplu dialect) *khutu* ‘small room’, Ladakhi (Shamskat and Nubra dialects) *khutu* ‘hut, cottage; thatched roof’ (Norman 2010: 112). Cf. OIA *kuṭi-* ‘hut’, Khowar *kutu* ‘a small room, a cabin, an apartment’ (Sloan 1981: 102), Kalasha *kuṭú* ‘temporary small shelter near one’s fields’ (Trail, Cooper 1999: 179), Indus Kohistani *kuṭkī* ‘a small house or hut close to a mosque in which the Maulvi and his pupils live’ (Zoller 2005: 113), Shina *gut* ‘tent’ (Bailey 1924: 142), Burushaski (Hunza, Nagir) *guṭi*, (Yasin) *kuṭú* ‘Hütte’ (Berger 1998b: 163), Wakhi *kəṭa*, *kuṭa* ‘hut, shelter, small house’ (Stebelin-Kamensky 1999: 220). Cf. also the reflexes of Proto-Iranian *\*kata-* ‘house’, for which the contamination with the aforementioned root seems to be possible: Wakhi *ktič*, Ishkashimi *k(v)rič*, Munji *krič(a)* ‘a hut on the summer pasture’ (Stebelin-Kamensky 1999: 212). The ultimate source of the Wakhi, Dardic and Tibetan words may well have been Burushaski, though for the OIA *kuṭi-* a Dravidian origin was also suggested (Mayrhofer 1992: 362).

<sup>22</sup> It is unclear if the Ladakhi word can have anything to do with some Dardic words for millet: Gawar-Bati *kāraz*, Savi *kāraž*, Kalasha *kāras*.

45. Balti *khut* ‘short (speech, etc.); small (area)’, *kot ci*, *koṭ ci* ‘a short while’ (Sprigg 2002: 91, 93). Cf. Burushaski *khut*, Shina *khuto*, Khowar *iskurdi* ‘short’.

46. Ladakhi *kit-ces* ‘to catch, seize, capture’ (Norman 2010: 82). Since the initial *k* in Central Ladakhi dialects (including Leh) may reflect earlier *g* (Zemp 2006), the verbal root *kit-* may be compared with Bashkarik *gītā* ‘took, bought’, Woṭapuri *gat* ‘took’, Gawar-Bati *gūtīm* ‘I took’ < \**gr̥pta-* < \**gr̥b-ta-* (cf. Vedic *gr̥bhñāti* ‘takes, catches’, Avestan *gərəβnāiti* ‘gains, obtains’, Vedic *gr̥bdha-*, Avestan *garapta-* ‘taken’). According to R.L. Turner, in some Middle and New Indo-Aryan languages the past participle reconstructed as \**ghr̥pta-* has replaced the regular *gr̥bdha-* (Turner 1966: 244). In certain cases, the reflex of this form began to function as the new present, future or infinitive base (cf. Prakrit fut. *ghattissam*, inf. *ghittum*, *ghettum*, Oriya *ghitibā* ‘to take, carry’, Konkani *ghettā* ‘takes’).

47. Balti *kóḍos* ‘rounded stone, cobble-stone’ (Sprigg 2002: 93). Cf. Burushaski *guyos* ‘grinding-stone’ (Lorimer 1938: 176). In Burushaski *y* is a voiced retroflex spirant.<sup>23</sup> It regularly reflects intervocalic *ḍ* in Indo-Iranian loanwords (Berger 1998a: 22), and thus may have developed from an earlier retroflex stop.

48. Balti *kulak* ‘meal (quickly made mixture of buttermilk and flour)’ (Sprigg 2002: 94), Purik *kholak* ‘a certain dish’, Ladakhi (Leh, Shamskat and Nubra dialects) *kholak*, *qholak* ‘ready-to-eat dough of roasted flour’ (Norman 2010: 117). Jäschke 1881: *Lh.*: dumpling made of *rtsam-pa* and beer; *Ld.*: pap of *rtsam-pa* and tea, called *spags* in Central Tibet. Cf. Burushaski (*d*)-*q(h)ul-an-* (Hunza, Nagir), *d-χul-an-* (Yasin) ‘(Teig) kneten’ (Berger 1998b: 357). The initial *d-* in Burushaski is a verbal prefix and *-an-* is a fossilized verbal suffix. For details see (Berger 1998a: 107–110, 212).

49. Ladakhi, Purik *kulik* ‘lock; key (also *pekulik*); the joint of the jaw’ (Norman 2010: 12). Jäschke 1881: *ku-lig* key, lock; also more accurately *phe-kulig* key, *cug-kulik* lock, padlock. *W.* If the meaning ‘key’ is historically primary, the word may be compared with PII \**kaula-* ‘crooked’ and its Dardic and Iranian reflexes (see s.v. *kelak*). For semantic development cf. Greek *κλήϊς*, Latin *clāvis*, Old Church Slavic *kl’učь* (κлючь) ‘key’ < PIE \**klēu-* ‘Haken, krummes Holz’ (Pokorny 1959: 604–605).

50. Ladakhi *kuruk* ‘donkey foal; foal’ (Norman 2010: 12), Balti *bong-kúru* ‘donkey colt’ (Sprigg 2002: 30). Jäschke 1881: *gu-rug Ld.* colt or foal of an ass. Cf. Kalasha *kúak* (< \**kuṛak*) ‘child (male or female); the offspring of a human or animal’ (Trail, Cooper 1999), Shumashti *kuṛ*, Dameli *kuṛa* ‘child’, Ashkun *kūrə* ‘child, foetus’, Kati *kṛu*, *kuṛuk* ‘young of animals’, Prasun *kyüru* ‘young of animals, child’, Kurdish *kurr* ‘son’, Middle Persian *kurrak*, Persian *kurra* ‘foal’ < Proto-Aryan \**kur-*. For more details on this Aryan root, its reflexes, and its cognates in other branches of Indo-European see (Forssman 1980; Hegedűs 2002). For Dardic (and perhaps for Nuristani) forms with retroflex *r* and its reflexes, the most probable prototype seems to be \**kurta-* with the *-t-* suffix.<sup>24</sup> The meaning ‘donkey foal’ in Ladakhi might have developed under the semantic influence of a previously existing cognate of Eastern (Kham) Tibetan *ku-ru* ‘donkey’ (Norman 2010: 12).

51. Balti *lashi* ‘a resinous wood used as a candle or torch because it burns slowly’ (Sprigg 2002: 98). Cf. Kashmiri *lāshi* ‘a torch’ (Grierson 1915-1932: 533), Shina (Gilgit dialect) *lāi* ‘torch (unlit)’ (Bailey 1924). In Shina the change \**ś* > *i* is regular in the intervocalic position.

52. Ladakhi *ldok* ‘muddy place’, Purik *ldoq* ‘mud, liquid dirt’ (Norman 2010: 487). Cf. Burushaski *toq* ‘Schlamm’, Shina *tok*, Khowar *toq*, *tuq* id. (Berger 1998b: 429). The initial cluster *ld* may have developed due to the analogical influence of *ldam* ‘mud’.

<sup>23</sup> According to Berger, this phoneme can be described as “ein stimmhafter retrofleher Sibilant mit gleichzeitiger palatal-dorsaler Engebildung” (Berger 1998a: 22).

<sup>24</sup> On the derivatives of this root with the suffixes *-n-*, *-k-*, and *-t-* see the above-cited paper (Forssman 1980).

53. Balti *maṭu* ‘coolie’s t-shaped stick’ (Sprigg 2002: 112), Ladakhi *maṭu* ‘walking stick; a tool for smoothing soil and breaking clods’ (Norman 2010: 681). With vowel metathesis < \**muṭa*? Cf. Dameli *muṭh*, Gawar-Bati *muṭhá*, Kalasha, Phalura *muṭ* ‘tree’.

54. Balti *menze* ‘lump of dough’ (Sprigg 2002: 113), Ladakhi *menze* ‘ball of dough ready to be shaped and cooked, flattened dough ball, or shaped bread ready to be cooked’ (Norman 2010: 710). Cf. Burushaski *máano* ‘größerer Teigklumpen’ (Berger 1998b: 272), Shina *míno* id., Brokskat *manīli*, Dameli *man* ‘bread’, Bashkarik *man*, Phalura *māṇḍili* ‘very soft bread’ (Morgenstierne 1940; 1941), Phalura *māṇḍ-* ‘to knead’, Romany *ma(n)ro* ‘bread’, Sindhi *mānī* ‘bread, loaf, food’, Punjabi *maṇḍā* ‘a thick cake’, West Pahari (Bhalesi) *mānni* ‘a large cake’, Assamese *mar-* ‘to knead (dough)’, Maithili *mār-* ‘to knead’, OIA *mṛdnāti* ‘crushes, kneads, rubs’, Av. *mōrəndən* ‘(they) destroy’. On the final element *-ze* in Balti and Ladakhi words see the note on *kerze* ‘lentils’.

55. Balti *monthok* ‘clod of earth’ (Sprigg 2002: 118). With dissimilation of middle consonants < \**maṭ-ṭhok*? Cf. OIA *mṛttikā-* ‘earth, clay’, Hindi-Urdu, Punjabi *miṭṭī*, Nepali *māṭo*, Dameli *maṭhi* id., Phalura *mēṭhi*, Shina *māṭī* ‘clay’; Burushaski *ṭhóko* ‘Klumpen, Ballen (von Zucker, Salz, Butter)’ (Berger 1998b: 452), Indus Kohistani *ṭhokh* ‘a clod (earth, salt)’ (Zoller 2005: 220).

56. Balti *mulak*, *mulu*, Purik *mulaq* ‘turnip’ (Sprigg 2002: 118; Zemp 2018: 944). Cf. Burushaski *múlo*, Shina *muúlo* id., OIA *mūla-* ‘root’, *mūlaka-* ‘radish’, Shina *mūli*, Khowar *mūl* ‘root’, Pashai *mūluk*, Hindi-Urdu *mūli* ‘radish’.

57. Balti, Purik, Ladakhi *multuk*, *muṭuk* ‘fist’ (Norman 2010: 705; Sprigg 2002: 118). Jäschke 1881: *mul-t’ug* W. fist. Cf. OIA *muṣṭi-*, Av. *muṣti-*, Khotanese *muṣtu*, Sindhi *muṭhi*, Lahnda, Punjabi *muṭṭh*, Hindi-Urdu, Gujarati, Marathi *mūṭh*, Nepali *muṭhi*, Persian *mošt*, Shughni *mut*, Wakhi *māst*, Shina *muṭ(h)*, Kashmiri *mōṭh*, Phalura, Kalasha, Khowar *muṣṭi*, Gawar-Bati *muṣṭāk*, Burushaski (loanword) *muč* ‘fist’. Intervocalic *-lt-* and *-lṭ-* in Western Tibetan dialects seem to convey *ṣṭ* and *sṭ* in borrowings (cf. Ladakhi *maṭar* (along with *maṣṭar* and *maṣṭar*) ‘teacher’ (Norman 2010: 693) < Hindi-Urdu *maṣṭar* < English *master*).

58. Balti *mush* ‘squeegee type of rake’ (Sprigg 2002: 119). Cf. Burushaki *máuṣ* (Nagir), *máuṣk* (Yasin) ‘zahnloser Rechen für Erde und Dung’ (Berger 1998b: 284), Khowar *máuṣ* ‘wooden hoe’ (Strand 2006).

59. Balti *múyu*, *myo* ‘mouse’, *munzhur* ‘small mole-like mouse’ (Sprigg 2002: 119). Cf. OIA *mūṣ-*, *mūṣā-*, *mūṣika-* ‘mouse, rat’, Persian *mūš*, Pashto *māžak*, Ossetic *myst*, Pashai *mūč*, Shumashti *múšo*, Gawar-Bati *muṣa*, Torwali *mūṣ*, Phalura *mūšo* ‘mouse’, Bashkarik *mūṣ* ‘mouse, rat’, Shina (Guresi dialect) *mūzū* ‘rat’, *mūžai* ‘mouse’, West Pahari (Jaunsari) *mūṣā*, Romany *mušó* ‘mouse’, Kumauni, Nepali *muso* ‘mouse, rat’.

60. Balti *paghon*, *phraghon*, Purik *phoGon* ‘spoon’ (Sprigg 2002: 127, 130; Norman 2010: 602). Cf. Burushaski *khapun*, Khowar *kipini*, Shina *khapai*, Indus Kohistani *khapāy* ‘spoon, ladle’ (Lorimer 1938: 228; Zoller 2005: 123). In Balti and Purik a metathesis of stops must have taken place.

61. Ladakhi *pat*, *paddi*, *patsi* ‘totally, completely’ (Norman 2010: 533). The word is attested in the Leh dialect where root-initial *p* regularly reflects earlier *b*. The prototype may thus be reconstructed as \**bad* and compared with OIA *baddha-* ‘bound’, Gujarati *bādhū* ‘whole, entire’, West Pahari (Kotgarhi) *baddhə* ‘all, entire, (pl.) all together’, Kashmiri *bod* ‘handful’.

62. Balti, Purik *payu* ‘salt’ (Sprigg 2002: 127; Norman 2010: 558). Jäschke 1881: *pa-yu* salt Bal. Cf. Burushaski (Hunza, Nagir, Yasin) *bayú*, Brokskat *payu*, Shina *pažúu* id. The intervocalic *ž* in Shina probably appeared due to the influence of the verb *paāž-* ‘to cook, bake’ (Berger 1998b: 45).

63. Ladakhi *perak* ‘Ladakhi women’s head-dress, covered with turquoise and coral’ (Norman 2010: 539). Cf. OIA *paridhā-* ‘to put on (clothes)’, Sindhi *paharaṇu*, Nepali *pairanu*, Hindi *pahirnā* ‘to put on, wear’, Kashmiri *pārūn* ‘to put on; to adorn, ornament’, Khowar *pur-*

*duik* ‘to cover oneself, put on a cloak’. The source of the Ladakhi word in the donor language probably reflects PII \**paridhāka-*.

64. Balti *phada* ‘bald’ (Sprigg 2002: 128). Cf. Brokskat *phaṭa*, Shina (Drasi dialect) *phaṭaro*, Burushaski (Hunza, Yasin) *baṭa* id. According to H. Berger (Berger 1998b: 44), the word is connected with Burushaski *baṭ* ‘skin’.

65. Balti *phaḍing* ‘dried apricots’ (Sprigg 2002: 127), Purik *phaḍing*, *phaṭing* id., Ladakhi *phaṭing*, *phaṭing* ‘apricot of good quality, with sweet kernel’ (Norman 2010: 563). Jäschke 1881: *p’a-tiñ*, W., sweet dried apricots. Cf. Burushaski *baṭer* ‘dried apricot (split and stoned)’ (Lorimer 1938: 73), *baṭér* (Hunza, Nagir), *baṭór* (Yasin) ‘aufgeschnittene und in der Sonne gedörrte Frucht, bes. Aprikosen’ (Berger 1998b: 44), Shina *phaṭóor* id. Berger compares this word with OIA *sphāṭayati* ‘splits’, but cf. Burushaski *phaḡis* ‘entkernte, noch nicht gedörrte Aprikose’ (Berger 1998b: 323).

66. Ladakhi *phok* ‘incense or burning juniper leaves or other fragrant burning materials’ (Norman 2010: 580). Cf. OIA *pāvayati* ‘purifies’, Persian *pāk* ‘pure’ (< \**pāvaka-*). The source of the Ladakhi word is probably a certain reflex of PII \**pāvaka-* ‘purifier’. The origin of the initial aspirate remains unclear.

67. Ladakhi *phololing* ‘a local variety of wild mint’ (Norman 2010: 579), Purik *phopholin* ‘wild type of mint’ (Zemp 2018: 47). Jäschke 1881: *pho-lo-liñ* W. peppermint. Cf. Burushaski *filal* ‘mint’ (Lorimer 1938: 155), *phalāl* (Yasin) ‘Pfefferminz’ (Berger 1998b: 329), Shina *philiil* id., Indus Kohistani *phimili* ‘a kind of mint’ (Zoller 2005: 291-292).

68. Ladakhi *poze* ‘ram, full-grown male sheep’ (Norman 2010: 540). On the final element *-ze* see the note on *kerze* ‘lentils’. The element *po-* may reflect PII \**paśu-* ‘cattle’ (> OIA *paśu-*, Avestan *pasu-* id., Pashto *psə*, Ossetic *fis* ‘sheep’). Cf. also Pashai *pašwala*, Khowar *pažál*, Shina *pāyāly*, Bashkarik *payāl*, Kashmiri *puhul* ‘shepherd’, Indus Kohistani *payāl*, OIA *paśupāla-* ‘herdsman’.

69. Ladakhi *puli*, *polo* ‘Ladakhi biscuits of a particular type’ (Norman 2010: 541). Cf. OIA *pūra-* ‘cake’, *pauli-* ‘a cake of scorched grain and ghee’, Sindhi, Punjabi, Hindi, Kumauni *pūri*, Gujarati, Marathi *puri* ‘fried cake’, Kashmiri *pūr* ‘a kind of cake fried in ghee’.

70. Ladakhi (Shamskat dialect) *put* ‘germination, sprouting’ (Norman 2010: 538). Cf. OIA *sphuṭati* ‘bursts open’, Lahnda *phuṭṭan* ‘to sprout’, Panjabi *phuṭṭṇā*, Hindi *phūṭṇā* ‘to burst’, Kashmiri *phuṭun* ‘to be cracked’, Shina *phūṭōiki* ‘to break’, Phalura *phúuṭa* ‘to break (apart), crack’ (Liljegren, Haider 2011: 121). The loss of initial consonant aspiration in the Ladakhi word remains unclear.

71. Balti (Skardu dialect) *rat* ‘field, ground, level place’ (Norman 2010: 911), ‘flat, level’ (Sprigg 2002: 135), Purik *rat* ‘level’ (Zemp 2018: 939). Cf. Burushaski (Hunza, Nagir, Yasin) *rat* ‘flach, eben, glatt’ (Berger 1998b: 364).

72. Balti *rindi* ‘lead, bullet’ (Sprigg 2002: 139), Ladakhi *rindi* ‘bullet; lead (metal)’ (Norman 2010: 911). Jäschke 1881: *rin-di* W. 1. lead. — 2. musket-ball. Cf. Burushaski *ril* ‘copper’ (Lorimer 1938: 303), Bashkarik *rīd*, Torwali *žit* (*ž < r*) ‘brass’, Shina *rīl* ‘brass, bronze, copper’, Gawar-Bati *rīt* ‘copper’, OIA *rīti-* ‘stream; yellow brass, bell-metal’. This word is probably etymologically connected with OIA *rī-* ‘to flow, melt’ (< PII \**rī-*). The original meaning may have been ‘(metal used for) casting’. The semantic as well as phonological development of the word seems to be influenced by Tibetan *ra-nye* ‘lead’.

73. Balti *rkat* ‘to cut down with a sword’ (Sprigg 2002: 140). Cf. PII \**kart-* ‘to cut’ > OIA *kṛntati*, *kartati* ‘cuts’, Av. *karəntaiti* ‘cuts’, *karāta-* ‘knife’, Hindi-Urdu *kattā* ‘curved knife’, *kattī* ‘sword, knife, dagger’, Tirahi *katāri* ‘knife’, Pashai *kāṭare* ‘spear’, Gawar-Bati *kaṭāro* ‘large knife’, Kalasha *katār*, Khowar *kuter* ‘knife, dagger’, Bashkarik *kāṭer* ‘knife’, Savi *kaṭārēi*, Phalura *kaṭōro* ‘dagger’, Shina *khāṭaru* ‘knife’.

74. Ladakhi *sale* ‘knitting needle’ (Norman 2010: 1005). Cf. Burushaski *sel* ‘Nadel, Stecknadel’ (Berger 1998b: 377). May be etymologically connected with Phalura *silēni* ‘needle’ and OIA *sīvyati* ‘sews’.

75. Balti, Purik *samdal* ‘moustache’, Ladakhi *samdal* ‘beard, moustache, whiskers (e.g. of a cat or otter)’. (Zemp 2018: 938; Norman 2010: 1007). Jäschke 1881: *sam-dal* *Ld.* mustaches. Cf. Burushaski (Yasin) *samlātiñ*, (Hunza) *salāt* ‘Schnurrbart’ (Berger 1998b: 373), Khowar, Kalasha *samlat* ‘moustache’. Balti, Purik, Ladakhi *samdal* < \**samtal* < \**samlat* with consonant metathesis and subsequent voicing of *t* after a nasal?

76. Purik *sarsing*, Ladakhi *sarsing*, *sartsing*, *sasting* ‘oleaster, Russian olive, *Eleagnus angustifolia*, a tree with extremely fragrant clusters of small yellow flowers, edible but unpleasant olive-shaped fruit, and silvery leaves that stay on the tree into winter’ (Norman 2010: 1007). Cf. Kalasha *sīcīn* ‘*Eleagnus*’ (Trail, Cooper 1999: 271), Khowar *šinjūr*, Wakhi *sisk*, Shughni *sīzd*, Munji *sijiä*, Tajiki *sinjid*, Persian *senjed* id. The word seems to be a local Wanderwort. It is, however, remarkable that in the Tibetan-speaking area it is found only in Northwestern dialects. The source of the Purik and Ladakhi words may have been a Dardic form that was phonologically similar to the Kalasha one.

77. Balti, Purik, Ladakhi (Leh) *shagaran* ‘polo ground, playing field’ (Norman 2010: 969). Cf. Burushaski *šabaran* (Hunza), *šawaran* (Nagir, Yasin), Shina *šāwārān* id.

78. Balti *shang* ‘wisdom, sense’ (Sprigg 2002: 151), Purik *šan* ‘consciousness’ (Zemp 2018: 931), Ladakhi *shang* ‘alertness, awareness, caution, prudence’ (Norman 2010: 553). The word should be separated from Old and Classical Tibetan *spyang-ba*, *spyang-po* ‘skill; skillful, clever’ because the Old Tibetan initial cluster *spy-* is preserved in Balti and Purik, and changes to *c-* in Ladakhi (cf. Balti *spyang-mo* ‘agile’ (Sprigg 2002: 159), Purik *spyañmo* ‘agile, attentive’ (Zemp 2018: 928), Ladakhi *changpo* (= *cang-po*) ‘alert, clever, sharp-witted’ (Abdul Hamid 1998)). But cf. Burushaski *šan* ‘awake, aware; care, heed, attention’ (Lorimer 1938: 322), Shina *šon* ‘care, anxiety; awake, alert’ (Bailey 1924), Khowar *šanig* ‘fear, suspicion’ (Morgenstierne 1973), OIA *śāṅkate* ‘is afraid, distrusts’, *śāṅkā-* ‘fear, distrust’.

79. Ladakhi *shanṭi* ‘a leafy vegetable’ (Norman 2010: 975). Cf. Indus Kohistani *šarī* ‘a green vegetable with round leaves’ (Zoller 2005: 378). The word seems to reflect some derivative of PII \**śāka-* ‘green vegetable’ (> OIA *śāka-*, Shina, Indus Kohistani *šā*, Phalura *šō*, Bashkarik *ša*, Kashmiri *hākh*, Kalsha *šak*, Khowar *šax* id.).

80. Ladakhi *shen* (Leh dialect), *šen* (Shamskat dialect) ‘(wooden) floor’ (Norman 2010: 986). Jäschke 1881: *shen*, *sren* floor of a house or room *W.* The word may reflect PII \**śrayana-* ‘leaning, foothold’ (< \**śri-* ‘to lean’, cf. OIA *śri-*, Avestan *sri-* id.). Cf. Indo-Aryan, Dardic and Iranian words for ‘ladder, stair’ reflecting various derivatives of the same root: Sinhalese *hiṇi*, Hindi-Urdu, Punjabi *sīrhī*, Phalura *šūrī*, Pashai *šur*, Shumashti *sīndī*, Gawar-Bati *sidī*, Yidgha *šad*, Pashto *šal*.

81. Ladakhi *shen-ces* ‘to squash’ (Norman 2010: 986). Cf. OIA *śṛṇāti* ‘crushes, breaks’, Khowar *šenik* ‘to crush’.

82. Balti (Skardu dialect) *spa* ‘taste, tasty (neutral), (sexual) enjoyment’, Purik, Ladakhi (Nubra dialect) *spa* ‘taste, flavour’ (Norman 2010: 542; Sprigg 2002: 159). Jäschke 1881: *dpa’(-ba)* 1. bravery, strength, courage; brave, strong, courageous. 2. beauty; beautiful. 3. *W.* taste, agreeable taste, flavour. Contrary to Jäschke, West Tibetan words can hardly reflect Old Tibetan *dpa’(-ba)*. Such a derivation is problematic not only for semantic but also for phonological reasons, because the regular reflexes of the Old Tibetan cluster *dp* in Balti and Purik are *xp* and *šp* respectively (cf. Balti *xpera* ‘talk, conversation’ < Old Tibetan *dpe-sgra*; Purik *špa(w)o*, *špaho* ‘warrior’ (Norman 2010: 542) < Old Tibetan *dpa’-bo*). But cf. OIA *svāda-* ‘taste’, Shina *ispāvū* ‘tasty’.

83. Purik *ṣu* ‘nose’ (used as a synonym of *snamtshul* id. < Old Tibetan *sna-mtshul*) (Zemp 2018: 938). Cf. Burushaski *ṣū etas* ‘to smell (v.t.)’ (Lorimer 1938: 332), Shina *ṣū thoiki*, Indus Kohistani *ṣū karīṅ* id. (Bailey 1924; Zoller 2005: 391).

84. Ladakhi *sutun* ‘(a child’s or baby’s) trousers’ (Norman 2010: 1012). Cf. Waigali *so(n)ta*, Tirahi *sātān*, Pashai *sutā n*, Phal. *suthān* ‘a kind of trousers’, Indus Kohistani *sutañ* ‘loose cotton trousers, shalwar’ (Zoller 2005: 402), Sindhi *suthaṇa* ‘pantaloon, drawers’, Lahnda *sutthan* ‘women’s drawers’, Punjabi *sutthaṇ*, *sutthuṇ* ‘women’s loose trousers’, Hindi *sūthan* ‘trousers’, West Pahari (Kotgarhi) *sūtthəṇ* ‘pair of trousers’, Niya Prakrit *soṃstani* ‘trousers (?)’.

85. Balti (Skardu dialect) *syar*, Purik, Ladakhi *sar* ‘wick’ (Norman 2010: 1007). Jäschke 1881: *sar* wick W. Cf. Burushaski (Hunza, Nagir, Yasin) *sar* ‘gedrehter Wollfaden’ (Berger 1998b: 375). Berger compares this word with OIA *sarikā* ‘string of pearls’.

86. Balti *takalu*, Ladakhi *takari*, *ṭakari* ‘scales, balance’ (Norman 2010: 368; Sprigg 2002: 162). Jäschke 1881: *tā-ka-ri* common scales, *Ld.* Cf. Shina *čākāe*, S. *ṭrakiri*, Lahnda *trakkari*, Punjabi *takkari*, Hindi-Urdu *tarākiri* ‘pair of scales’, Burushaski (loanword) *jakāai* ‘Waage’ (Berger 1998b: 233). This word is etymologically connected with OIA *tarka-* ‘inquiry, conjecture’, *tarkayati* ‘guesses, thinks’, Proto-Iranian *\*tark-* > Ossetic *tærχon* ‘judgement, discussion, verdict, trial’ (Abaev 1979: 275-276).

87. Purik *taki*, *taki* ‘flat bread’ (Zemp 2018: 934), Ladakhi *taki*, *tagi tagi* ‘bread’ (Norman 2010: 368–369). Jäschke 1881: *ta-gir* W. bread. Cf. Shina, Khowar *ṭiki* id., Phalura *ṭiki* ‘small, thick cakes of bread’ (Liljegren, Haider 2011), Kalasha *ṭiki* ‘bread made by cooking in oil’ (Trail, Cooper 1999), Lahnda *ṭikkī* ‘food’, Sindhi *ṭikī*, Gujarati *ṭikī*, Marathi *ṭiklī* ‘cake’, Punjabi *ṭikkī*, Hindi *ṭikiyā* ‘small cake’.

88. Ladakhi *tak-tak* (Shamskat dialect), *ṭak-ṭak*, (Leh dialect) ‘taut, stretched tight, tight (e.g. of curtain, clothing, greenhouse plastic)’, Purik *taqtaq* ‘tight’ (Norman 2010: 370), Balti *ṭak-ṭak* ‘hard’ (Sprigg 2002: 184). Reduplicated adjectives are a well-attested phenomenon in modern Tibetan dialects (cf. Balti, Ladakhi *kor-kor* ‘concave, round’, Classical Tibetan *kor* ‘root denoting anything round or concave’ (Jäschke 1881: 6); Lhasa *chung-chung* ‘small’, Classical Tibetan *chung-ba* id.). Northwestern Tibetan final *k* and *q* usually reflect earlier final *g* (Miller 1956). The earlier prototype for the root of the words under analysis can thus be reconstructed as *\*tag*. This root may be borrowed from some Indo-Iranian source, where it reflects either PII *\*tank-* (> OIA *tañc-* ‘to contract, put together, coagulate, solidify’, Persian *tanjīdan* ‘to squeeze; to twist, roll together; to draw tight’, *tang* ‘narrow, tight’, Balochi *tanč-* ‘to fasten strongly, roll strongly, squeeze’, Shughni *tāž-/tīžd-* ‘to pull, draw, haul, drag, stretch’<sup>25</sup>) or PII *\*tangh-* (> Proto-Iranian *\*ṭanj-* ‘to pull, draw’ > Avestan *ṭanj-* id., Persian *sanjīdan* ‘to measure; reflect; compare, put in balance’, Ossetic *tinžin* ‘to spread, stretch out; to crucify’ (Cheung 2007: 391–392)). The latter root may have also reflected in Dardic (cf. Kashmiri *ṭanz* ‘extreme and urgent desire’,<sup>26</sup> Khowar *tonjeik* ‘to destroy, pull down’). Absence of the nasal in the Tibetan forms may be due to its regular drop before an old voiced guttural in the donor language. A similar process is attested in Shina: *agār* ‘fire’ (cf. OIA *aṅgāra-* ‘coal’), *agui* ‘finger’ (cf. OIA *aṅguli-* id.).

89. Balti *ṭangka*, *ḍangga* ‘shelter for the night, room boarded all round’ (Sprigg 2002: 183, 184), Purik *ṭangka* ‘partially roofed daytime pen for animals; open or partially roofed courtyard on the upstairs of a house’ (Norman 2010: 359). Cf. Burushaski *ḍaṅóo* ‘oberirdischer Speicher, mit Tür zum Haus’ (Berger 1998b: 131), Shina *ḍāñō* ‘native storehouse’ (Bailey 1924). But cf. also Tibetan *dang-ra* ‘stable for cattle’ (Jäschke 1881).

<sup>25</sup> More Iranian reflexes of this root see in (Cheung 2007: 377–378).

<sup>26</sup> Semantically cf. Russian *ṭaga* (*мѣга*) ‘pull, traction; attraction, craving, strong desire’.

90. Balti *tek* ‘button’ (Sprigg 2002: 184). Cf. Burushaski *ṭak*, Shina *ṭāk*, Indus Kohistani *ṭikū*, Khowar, Kalasha *tak* id.

91. Balti *thing* ‘upright, straight up’ (Sprigg 2002: 184). Cf. Burushaski *ṭiṅ* ‘peak (of mountain), top (of hill); stretched up, erected’, Khowar *thing* ‘high place; steep slope’ (Lorimer 1938: 352).

92. Balti *thup* ‘darkness’ (Sprigg 2002: 166), Purik *thup* ‘dark’ (Norman 2010: 435). Cf. Burushaski *thap* ‘night’; Shina (Chilasi dialect), Indus Kohistani *thap<sup>h</sup>* ‘dark; extinguished (light, fire)’ (Zoller 2005: 113). Balti *thap-thup* ‘dawn, dusk, twilight’ (Sprigg 2002: 184) may also belong here.

93. Balti *tok* ‘swelling, bump on the head, small hill’ (Sprigg 2002: 185). Cf. Burushaski *ṭhoko* ‘Klumpen, Ballen (von Zucker, Salz, Butter)’ (Berger 1998b: 452), Shina *ṭhokū* ‘hill’ (Bailey 1924), Indus Kohistani *ṭhokh* ‘a clod (earth, salt)’ (Zoller 2005: 220).

94. Ladakhi *tsapik* ‘a little, a bit, a little while’ (Norman 2010: 731). Jäschke 1881: *tsa-big, tsha-big* *Ld.* a little. Cf. Shina *čap-*, Indus Kohistani *cap-*, Gawar-Bati *cep-* ‘to bite’, Pashai *čip-* ‘to bite off’, Kashmiri *cop* ‘a bite’. The Dardic forms probably reflect the Proto-Indo-Iranian root *\*kap-/čap-* ‘to catch, snatch, pick, pinch’. For the Iranian reflexes of this root see e.g. (Rastorgueva, Edelman 2003: 221-226). For the semantic development in Ladakhi cf. English *bit* (etymologically = *bite*). The final element *-ik* is a reduced form of the numeral *cik* ‘one’.

95. Ladakhi *tsele* ‘(jocular) small, short (esp. of people); (Shamskat dialect) a small variety of tick’ (Norman 2010: 735). Cf. Burushaski *chilúm*, pl. *chiliiko, chiliiko* ‘fein gemahlen, fein (Pulver, Mehl usw.); feinkörnig; klein, winzig (Schriftzüge), in kleinen Buchstaben geschrieben; minderwertig, weniger gut’ (Berger 1998b: 77).

96. Ladakhi *tsiri* ‘the small intestine’ (Norman 2010: 733-734). Cf. Burushaski *-chir* (Hunza, Nagar), *-ceriñ* (Yasin) ‘Darm, pl. Eingeweide’ (Berger 1998b: 78), Kalasha *č(i)rāki, tsirāki* ‘large intestines’ (Trail, Cooper 1999: 63).

97. Ladakhi *tshale* ‘thatched roof, shade made of branches and leaves, thatched-roofed house or hut’ (Norman 2010: 773), Balti *tshale* ‘hut’ (Sprigg 2002: 170). Cf. Kashmiri *chëy* ‘a kind of thatching grass’ (Grierson 1915–1932: 1066), Lahnda, Punjabi *chatt*, Hindi *chat* ‘roof’, OIA *chādayati* ‘covers’, *chadis-* ‘cover, roof’, Proto-Iranian *\*sād-* ‘to cover’ (cf. Pashto *psolal* ‘to adorn’ < *\*upa-* or *\*pati-sād-*) < PIE *\*sk’ed-*. The source of the Ladakhi and Balti words may have been the derivative with the suffix *\*-l-* (*\*čhadila-* < *\*šcadila-*).

98. Ladakhi *tshiṭu, tshitu* ‘contamination, causing dirtiness or violation in a way that will cause illness or spiritual pollution; menstruation’ (Norman 2010: 766), Purik *tshē(r)ṭu* ‘dirty’ (Zemp 2018: 932). Cf. Kashmiri *chëṭun* ‘to become impure, to become unclean, to become refuse and untouchable’, *chëṭarun* ‘to render impure, to cause something previously pure to become impure, to defile’, *cheṭh* ‘remnants of food, leavings of a meal’ (Grierson 1915-1932: 1063, 1064). Shina *ušūto* (= *ušūto?*) ‘foul, unclean’ and Burushaski *zuṭú* (Hunza, Nagir), *zeṭú* (Yasin) ‘unrein durch Pollution, Menstruation, oder wenn man nach dem Koitus nicht gebadet hat’ (Berger 1998b: 486) with unexplained voicing of the initial consonant may also belong here. Turner’s comparison of the Kashmiri and Shina forms with OIA *úcchiṣṭa-* ‘left over, stale, spat out; leavings’ (Turner 1966: 85) doesn’t seem impeccable because the OIA cluster *ṣṭ* regularly corresponds to the aspirated *ṭh* in Kashmiri.

99. Balti *tshon* ‘injury’ (Sprigg 2002: 171). Cf. OIA *kṣaṇoti* ‘injures, hurts’, *kṣata-* ‘wounded’, *kṣataka-* ‘wound’, *kṣaṇana-*, *kṣati-* ‘injury, damage’, Pali *khaṇati* ‘destroys’, Khotanese *vaṣanaurau* ‘destructive’ (Bailey 1979: 379) < *\*vi-šana-bara-*, Greek κτείνω ‘I kill’ < PIE *\*tk’en-* (LIV: 645).<sup>27</sup>

<sup>27</sup> In “Lexikon der indogermanischen Verben” the reconstructions *\*tken-* and *\*tk’en-* are considered equally possible, but the single non-geminate intervocalic *ṣ* in Khotanese indicates higher probability of a prototype with the PIE palatal *\*k’*. The prototype with the plain dorsal *\*k*, *\*tken-* (or *\*kpen-* in earlier reconstructions), would have

Old Tibetan *mtshon* ‘pointed or cutting instrument’, proposed by Sprigg as the source of the Balti word, is semantically more distant. To the same Indo-Iranian etymon may also belong Balti *tshak* ‘rheumatism’ (Sprigg 2002: 169), Purik *tshaq* ‘pain with difficulty of breathing’, *tshak yong* ‘to ache’, Ladakhi *tshak* ‘sprain, pulled muscle, sudden cramp, sudden sharp pain’ (Norman 2010: 759-760).<sup>28</sup> Cf. Kashmiri *čhokh* ‘wound’, Khowar *čay* ‘illness’ (= OIA *kṣati*-?), *čhek* ‘illness, pain’.

100. Ladakhi *tso* ‘standing on the hind legs (e.g. *khi tso coduk* ‘the dog is standing on its hind legs’)’ (Norman 2010: 735). Cf. Burushaski, Shina *čoko* ‘senkrecht, ansteigend, aufrecht, steil’ (Berger 1998b: 90), Indus Kohistani *cūk<sup>h</sup>* ‘vertical, upright, erect’ (Zoller 2005: 168).

101. Ladakhi *tsolo* ‘anus’ (Norman 2010: 735). Jäschke 1881: *tsho-lo* W. vulgar = ‘*phong-tshos* ‘buttocks’. Cf. Kashmiri *coth* ‘anus, vulva’, Indus Kohistani *čot<sup>h</sup>* ‘buttock’ (Zoller 2005: 181), Lahnda, Punjabi *cuttar*, Hindi *cūtar* ‘rump, buttock’. The intervocalic *l* in Ladakhi may reflect the retroflex *ɽ* or *ɖ* (< \**ɽ*, cf. the Indus Kohistani form) of the donor language.

102. Ladakhi *tul* ‘powdered dung’ (Norman 2010: 448). Norman proposes the earlier prototype \**dul*. Since in the dialects of Upper Ladakh, where this word is attested, one of the sources of the initial *t*- is *d*-, Norman’s proposal sounds reasonable. The prototype \**dul* seems to have cognates in Indo-Aryan and Dardic: OIA *dhūli*- ‘dust, powder’, *dhūlikā*- ‘pollen, fog, mist’; Prakrit *dhūli*, Hindi *dhūl*, Punjabi, Lahnda, Gujarati *dhūr*, Sindhi *dhūri*, Kumauni *dhuli*, Bengali *dhul*, Marathi *dhūl* ‘dust’; Nepali *dhulo* ‘dust, powder’; Tirahi ‘*dūda*’, Kalasha *udhrū*, Shina *ūdū*, Phalura *dūri* ‘dust’; Pashai (Wegali dialect) *durī* ‘dust-storm’; Torwali *dur* ‘mist’.

103. Balti *tul* ‘to patch, mend (by sewing)’ (Sprigg 2002: 172), Purik *tul* ‘to stitch a thick or hard object with many stitches’, Ladakhi (Shamskat, Leh and Nubra) *tur-ces* ‘to darn, mend by stitching’ (Norman 2010: 374). Jäschke 1881: *tur-ba* W ‘to darn (stockings)’. Cf. Burushaski (Hunza, Nagir) *tōl* ‘awl (cobbler’s)’, *čuk etas tol* ‘a sewing awl’ (Lorimer 1938: 355), Burushaski (Yasin) *tul* ‘Ahle’ (Berger 1998b: 428).

104. Balti *tyaku* ‘branch used as a hockey stick’ (Sprigg 2002: 185), Ladakhi *taku*, *teku*, *ṭaku* ‘polo mallet, hooked stick’ (Norman 2010: 368). Jäschke 1881: *ta-ku* W stick with a hook, hooked cane, crutch. Cf. Burushaski (Yasin) *ḍāku* ‘Spazierstock’ (Berger 1998b: 129), Burushaski (Hunza, Nagir), Shina *ḍako* ‘wooden post supporting roof, pillar, tent-pole’ (Lorimer 1938: 108).

105. Balti *zanzos*, *dzanzos* (Turtuk dialect), Purik *zanzos* ‘wife; family’ (Norman 2010: 842; Sprigg 2002: 180). Norman derives this word from Persian *zan* ‘woman’. Her etymology cannot be discarded because massive borrowing from Persian into Muslim Tibetan dialects (directly and through Urdu) is an established fact. This process took place at a comparatively recent date and was mainly mediated through written language. That being said, it seems somewhat strange that the word in question is preserved only as a part of a fossilized compound, the second component of which cannot be identified with certainty.<sup>29</sup> It is, however, possible that the element (*d*)*zan*-, being etymologically related to the above-mentioned Persian lexeme, was adopted from some other Indo-Iranian source. Cf., e.g. Phalura *jeeni* ‘female person’ (Liljegren, Haider 2011: 76), Kashmiri *zən*, Sindhi, Lahnda, Punjabi *janī* ‘woman’, Bashkarik *jin kar*- ‘to marry’, Indus Kohistani *zhāl* ‘marriage’ (Zoller 2005: 202), OIA *jani*-, Av. *ṣaini*- ‘woman, wife’. The initial *dz* in Balti may point to the initial affricate of the donor language.

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reflected as \**xšan*- in Proto-Iranian, and the regular Khotanese continuant of its derivative \**vi-xšana-bara*- would have sounded \*\**vaṣṣanaurau*.

<sup>28</sup> Etymologically = OIA *kṣataka*-?

<sup>29</sup> Norman mentions the hypothetical variant *dzantshos* in the Turtuk dialect of Balti. If such a form really exists, the second part of the compound may be compared with Tibetan *tshos* ‘color’. The original meaning of the word in this case should be something like ‘female appearance’.

### Data interpretation, conclusions and issues for future research

The above list contains a hundred-plus probable loanwords. They can be classified on the basis of their dialectal distribution, as well as of their etymological sources. If the former criterion is applied, the greater part of the list may be subdivided into two groups, i.e. lexical items found in the whole area and those peculiar to Muslim dialects (Balti and Purik). These groups include 35 (circa 33.3%) and 37 (circa 35.2%) words respectively. In addition, 11 words (circa 10.5%) are attested in Ladakhi and Purik only, and 22 (circa 21%) are peculiar to Ladakhi.

Etymologically, the list is far from homogeneous. Words of Burushaski and Indo-Iranian origin seem to be almost equally numerous. The delimitation of these two strata, however, poses a problem. Some Indo-Iranian languages were and still are in close contact with Burushaski. Since a considerable part of modern Indo-Iranian vocabulary remains unetymologized, the direction of borrowing is not clear in all cases. For this reason, at the current state of our knowledge the most accurate etymological classification should include the following classes:

- 1) words with parallels in Burushaski only;
- 2) words with both modern Indo-Iranian and Burushaski parallels, not etymologizable in Indo-Iranian (possible Burushaski loanwords in Indo-Iranian);
- 3) words with both modern Indo-Iranian and Burushaski parallels, etymologizable in Indo-Iranian (possible Indo-Iranian loanwords in Burushaski);
- 4) words with parallels in Indo-Iranian only.

These classes comprise 11 (circa 10.5%), 38 (circa 36.2%), 19 (circa 18%) and 37 (circa 35.2%) words on the list respectively.

The most intriguing conclusions can, however, be drawn if the two classifications are “superimposed” on each other, i.e. if we try to establish the distribution of loanwords belonging to the four above etymological classes, in different dialects. Out of 37 words, attested only in Balti and/or Purik, 6 belong to class 1, 15 belong to class 2, 7 belong to class 3, 9 belong to class 4. That is to say, the majority (circa 57%) of loanwords peculiar to Muslim dialects are unquestionable or probable borrowings from Burushaski. In the light of this fact, Zemp’s claim that “... the deepest mark on Purik appears to have been left by Burushaski” (Zemp 2018: 4) should be considered realistic. A totally different picture emerges based on the etymological analysis of lexical items peculiar to Ladakhi. In this group the predominance of Indo-Iranian borrowings is quite evident, 16 words (circa 73%) belonging to classes 3 and 4. A somewhat similar distribution shows the words, attested in Ladakhi and Purik only. Classes 3 and 4 cover 3 (circa 27%) and 4 (circa 36%) of such words respectively, their total number being 11. Among the borrowings common to all the analyzed dialects, i.e. Ladakhi and Muslim varieties, Burushaski and Indo-Iranian loans are numerically almost equal, classes 1 and 2 comprising 18 words (circa 51%), classes 3 and 4 — 17 words (circa 49%) out of 35.

The situation just described looks somewhat confusing and needs some explanation. To explain it in full, copious additional lexical material on Ladakhi, Purik and Balti will, no doubt, be necessary. Nevertheless, some preliminary hypotheses may already be proposed. Dissimilarity in distribution of loanwords between Indo-Iranian and Burushaski strata in different Northwestern Tibetan dialects may well have been caused by local differences in ethnic and linguistic composition in the pre-Tibetan period. If this be the case, it should be assumed that the pre-Tibetan population of the present-day Kargil and Skardu districts spoke some form of Burushaski, while in Ladakh the predominant language was Indo-Iranian. This is, however, a somewhat simplistic scheme, and the true picture of language contact in the region seems to be more intricate. The route of Tibetan migration to the present-day Muslim areas must undoubtedly have passed through Ladakh. This fact explains why a large percentage

of the loanwords that are common for Ladakhi and Muslim dialects is of Indo-Iranian origin. On the other hand, the presence of numerous Burushaski loans in Ladakhi is also a certainty. It cannot be ruled out that some of them were not borrowed directly but rather came via Balti or Purik.<sup>30</sup> Yet one should bear in mind that Indo-Iranian languages were not autochthonous in the region, even though they seem to have been spoken there before the spread of Tibetan. The pre-Indo-Iranian inhabitants of Ladakh may well have been speakers of some local variety of early Burushaski. It implies the possibility that the Burushaski elements in Ladakhi may, at least partly, have been adopted via some pre-Tibetan Indo-Iranian dialect from this earlier substrate language.

Another fact yet to be explained is the considerable number of Indo-Iranian borrowings attested in Muslim dialects only.<sup>31</sup> It seems quite possible that some of them are in fact present in Ladakhi, too, but for some reasons were not included in Norman's dictionary. A certain part of such words, however, may belong to dialects other than those of Skardu and Kargil and stem from their substrate languages, which could have been Indo-Iranian rather than Burushaski. Unfortunately, this hypothesis can hardly be tested because of an extreme lack of data. The situation may change in the future, provided field linguistic research in the region makes more progress.

The above wordlist raises a number of issues for further research. For example, it still remains unclear whether Indo-Iranian words in it were borrowed from a single source or several sources. If there were more than one donor languages, were they all substrata for the Tibetan dialects or at least some of them were adstrata? Which branches of Indo-Iranian do they represent? All these questions will remain unanswered as long as the historical-phonological peculiarities of the Indo-Iranian lexical items on the list remain unclear. This problem will be addressed at length in a separate article. Here I will limit myself to several most conspicuous features.

Some loanwords in Ladakhi show devoicing of historical voiced stops (cf., e.g. *kit-ces* 'to catch, seize, capture' < PII \**gr̥bh-ta-*; *pat*, *paddi*, *patsi* 'totally, completely' < PII \**baddha-* < \**badh-ta-*). This phonological change affected also the inherited vocabulary of several Ladakhi dialects including the dialect of Leh. Since in more cases Indo-Iranian word-initial voiced consonants are preserved, it may be hypothesized that the process of borrowing started before devoicing and finished after it had already taken place. A synchronically similar, but probably historically different phenomenon can be seen in loans from Burushaski, where voiceless and voiceless aspirated consonants sometimes correspond to voiced ones in the donor language: Balti *kóḍos* 'rounded stone, cobble-stone' (cf. Burushaski *guyos* 'grinding-stone'), Balti, Purik *payu* 'salt' (cf. Burushaski *bayú*), Balti *phaḍa* 'bald' (cf. Burushaski *baḥa*), Balti *ṭyaku* 'branch used as a hockey stick', Ladakhi *taku*, *teku*, *ṭaku* 'polo mallet, hooked stick' (cf. Burushaski *ḍáku* 'Spazierstock'). As is evident from the above examples, this type of sound correspondence is not confined to Ladakhi but found also in Balti and Purik, where Old Tibetan root-initial voiced stops were in most cases not devoiced. The cause of this phenomenon is not quite clear, but most likely it has something to do with the fact that in Burushaski itself many roots with initial mediae have variants with aspirated and unaspirated tenues. These variants often appear after prefixes.

Another noteworthy historical-phonological feature of Indo-Iranian loanwords is the dentalization of old palatal affricates: Ladakhi *tsapik* 'a little, a bit, a little while' (cf. Shina *čap-*

<sup>30</sup> In this regard, it is worth noting that a number of such words are attested only in the Shamskat and Nubra dialects, spoken in Northern Ladakh and staying in close contact with Purik and Balti.

<sup>31</sup> They make up circa 43% of loanwords peculiar to Balti and Purik.

‘to bite’ (< PII \*čap-),<sup>32</sup> Balti (*d*)zanzos, Purik zanzos ‘wife; family’ (cf. OIA *jani-*, Av. *ǰaini-* ‘woman, wife’). This change, however, is not observed in some borrowings from Burushaski: Ladakhi *c(h)ancil* ‘the green outer shell or fruit of walnut’ (cf. Burushaski *ć(h)anjíl*), Balti, Ladakhi *cha* ‘millet’ (cf. Burushaski *ćha*).

The central question arising in the context of Indo-Iranian loanwords in Northwestern Tibetan dialects is certainly that of the exact position of the donor language(s) in the Indo-Iranian subfamily. In the present article I confine myself to making just a few points in this connection. First of all, in the above material there is not a single example of typically Iranian phonological development.<sup>33</sup> The presence of phonological innovations peculiar to Indo-Aryan is highly questionable, the only possible example being perhaps the change of PIE \*sk’ to palatal aspirated affricate *čh* with subsequent dentalization (cf. Ladakhi, Balti *tshela* ‘hut’, etymologically connected with OIA *chad-* ‘to cover’ < PIE \*sk’ed-). This example is, however, hardly indicative because the change \*sk’ > *čh* is attested in a number of Dardic languages where it is an independent development of Proto-Dardic \*sč (Kogan 2005).

On the other hand, there are several reasons to believe that the source language of at least some of the words on the list may have belonged to the Dardic group. In this regard, one fact is remarkable. In Indo-Iranian loanwords we find two different corespondences to OIA cluster *kš*, i.e. *tsh* (voiceless dental aspirated affricate) and *ch* (voiceless palatal aspirated affricate). Cf., e.g. Balti *tshon* ‘injury’, *tshak* ‘rheumatism’, Purik *tshaq*, Ladakhi *tshak* ‘sharp pain’ (= OIA *kṣaṇoti* ‘injures, hurts’, *kṣataka-* ‘wound’); Balti, Purik *chal* ‘overflow, spill over’, Ladakhi *chal-ces* ‘to splash, to spill over’ (= OIA *kṣarati*, *kṣalati* ‘flows, trickles’, *kṣālayati* ‘washes’). Iranian etymological parallels to these two words do not show uniformity of correspondences too (cf. Proto-Iranian \*vi-šana-bara- ‘destructive’ > Khotanese *vašanaurau*; Proto-Iranian \*xšar- ‘to flow’ > Ossetic *äxsärdzän* ‘waterfall’). This picture clearly shows that we are dealing here with the reflexation of two different old consonant groups. Iranian is known to preserve the distinction between Proto-Indo-European clusters containing palatal dorsal consonants (i.e. \*k’s, \*tk’ etc.) and those containing plain or labial dorsals (i.e. \*ks, \*gs, \*k<sup>w</sup>s, \*g<sup>w</sup>s and some others), the reflexes being \*š and \*xš respectively, while in Indo-Aryan the merger took place. Dardic in this respect is somewhat close but not identical to Iranian. Here the reflexes did not merge, and clusters of the two aforesaid types developed in two divergent ways, i.e. to palatal *čh* and to cerebral *čh* (Kogan 2005).<sup>34</sup> As we can see, this Dardic reflexation is not only very similar to the one detected in the above-mentioned Northwestern Tibetan words, but may well represent the earlier stage of the latter. The dental voiceless aspirate *tsh* may have evolved from palatal *čh* in the wake of dentalization, and the cerebral *čh* may have been decerebralized into palatal *čh*.<sup>35</sup> Summing up, the system of reflexes of the Indo-European clusters under analysis in the two Indo-Iranian loanwords on our list, being totally different from both Indo-Aryan and Iranian, is at the same time derivable from the Proto-Dardic one. It can, however, be stated with certainty that the source of these loans cannot be any of the present-day Dardic languages spoken

<sup>32</sup> See also other examples with initial *ts* and *tsh* in the previous section.

<sup>33</sup> The only feature that is found in both Iranian and the loanwords on the above list is the deaspiration of Proto-Indo-European voiced aspirates. This sound change may, however, be attributed to the fact that voiced aspirated consonants are absent from the phonological systems of Ladakhi, Balti and Purik. In addition, it should be noted that deaspiration is characteristic not only of Iranian but also of Dardic and Nuristani.

<sup>34</sup> The palatal aspirated affricate \*čh is the Proto-Dardic reflex of clusters containing palatal dorsals, while the groups with non-palatal dorsals are reflected as the cerebral aspirated affricate čh. The latter phoneme may have developed from the earlier Proto-Dardic cluster \*kš.

<sup>35</sup> The exact typological parallel to this process is attested in the history of Kashmiri (Kogan 2016).

adjacent to Balti, Ladakhi and Purik, i.e. Brokskat, Shina and Kashmiri. All these languages belong to the Eastern Dardic subgroup, where the earlier *čh* and *ṣh* have merged word-initially (Kogan 2016).

Thus, historical phonology gives us some evidence in favor of Francke's hypothesis. Nonetheless, as noted above, this hypothesis is undoubtedly unacceptable in its original version and should be reformulated. The pre-Tibetan population of Ladakh may well have been linguistically Dardic but its language could in no way have been an early form of Brokskat. What this language really was is an interesting problem in itself. It is hoped that further study will throw some light on it.

### Abbreviations for language names

Av — Avestan; OIA — Old Indo-Aryan; PIE — Proto-Indo-European; PII — Proto-Indo-Iranian

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А. И. Коган. О возможном влиянии дардских языков и языка бурушаски на северозападные диалекты тибетского языка.

Северо-западная окраина тибетского языкового ареала, ныне входящая в состав индийского штата Джамму и Кашмир и подконтрольных Пакистану Северных Территорий, в прошлом являлась зоной интенсивных этнических и языковых контактов. Результатом этих контактов стала языковая ассимиляция тибетцами местного дотибетского населения. Согласно гипотезе, выдвинутой более века назад, это население, возможно, говорило на одном из дардских языков. В статье делается попытка проверки данной гипотезы путем этимологического анализа лексики северо-западных тибетских диалектов. Результаты анализа свидетельствуют о наличии значительного индоиранского (вероятно, дардского) лексического пласта, а также многочисленных лексических еди-

ниц, усвоенных из некой ранней формы языка бурушаски. Автор пытается выявить диалектное распределение заимствований из индоиранского источника и бурушаски в исследуемом ареале.

*Ключевые слова:* языковые контакты; языковой субстрат; тибетские диалекты; язык ладакхи; язык балти; язык пурик; дардские языки; язык бурушаски.