

On the Burushaski–Indo-European hypothesis by I. Čašule*

The paper deals with a relatively recent hypothesis, put forward by the scholar I. Čašule, according to which the Burushaski language, traditionally considered an isolate, actually belongs to the Indo-European linguistic stock. The authors approach Čašule's hypothesis from the comparative side, evaluating phonological, morphological, and lexical arguments in its favour side by side with the corresponding arguments in favour of the Dene-Caucasian hypothesis, according to which Burushaski forms a separate one-language branch of the vast macrofamily that also includes Na-Dene, Sino-Tibetan, North Caucasian, Basque, and Yeniseian languages.

It is concluded that arguments for the Dene-Caucasian status of Burushaski quantitatively override the Indo-European-Burushaski hypothesis by a very large margin; suggested Indo-European connections are either highly unsystematic (when it comes to phonetic correspondences), sporadic and insufficient (in morphology), or practically non-existent (in basic lexicon). Consequently, all of the resemblances between Indo-European and Burushaski must be ascribed to (a) recent contacts between Burushaski and Indo-Aryan languages, (b) chance resemblances, or (c) in a very small number of cases, traces of «ultra-deep» relationship that do not represent exclusively «Indo-European-Burushaski» connections.

Keywords: Indo-European linguistics, Burushaski language, macrocomparative linguistics, Dene-Caucasian macrofamily, language isolates.

Over the last two decades, Ilija Čašule has published a monograph (Čašule 1998) and an article (Čašule 2003) in which he attempts to show that the Burushaski language — traditionally considered an isolate — is a member of the Indo-European language family. One of the authors has already published a critique of the 1998 monograph (Bengtson 2000). In this article we shall mainly be dealing with the 2003 article in JIES, and all page number references will be to the latter work.

While we agree with Čašule that there are some affinities between Burushaski (Bur) and Indo-European (IE), we do not consider Bur a part of the IE family, or even of the postulated deeper macro-family to which IE belongs (Nostratic or Eurasiatic), and we intend to show that

* We are deeply indebted to the work of the late Sergei A. Starostin, who, in the last few months of his life, worked intensively on the Burushaski language and its relationship with Dene-Caucasian languages. The results can be seen in his DC phonology and glossary, and EHL/ToB etymological databases (see References). Since his father's passing Georgiy (George) Starostin has continued to work with us and we are grateful to him. We are thankful for useful comments from Elena Bashir, Bertil Tikkanen, and Michael Witzel. We are also deeply thankful to the Evolution of Human Language Project, Santa Fe Institute, and Murray Gell-Mann, and the Centre for the Interdisciplinary Research of Ancient Languages and Older Stages of Modern Languages (MSM 0021622435), Masaryk University Brno, for their support.

a large part of the resemblances between Bur and IE can be explained as areal, *i.e.*, the results of long-term contact and borrowing — in both directions — between Bur and surrounding IE languages.¹

However, we shall not simply demolish Čašule’s hypothesis without providing what we consider a better, more plausible, and more probable alternative for the classification of this fascinating (Bur) language. We shall present evidence that Bur is more likely a member of the Dene-Caucasian (or Sino-Caucasian) macro-family. This is of course not a new idea: it was pre-figured long ago by scholars such as Karl Bouda, O. G. TAILLEUR, V. N. TOPOROV, and others. Recently this hypothesis has been given a firmer grounding using traditional historical linguistic methods: see, e.g., Bengtson (1997a, 2001a, 2008a), Blažek & Bengtson (1995), Starostin (n.d., 2005a, 2005b). While it is not possible to present all the evidence for this latter view (see the references), we think some salient aspects of the phonology, morphology, and lexicon of Bur are enough to indicate the greater probability of its Dene-Caucasian (DC) affiliation.²

Phonology

At first glance Čašule’s comparison of IE and Burushaski phonology seems impressive. An ample number of examples is cited, and superficially it seems that Čašule (henceforth “Č”) has made a good case for a correspondence between IE and Burushaski phonology. However, on closer examination a number of problems appear.

(a) Some “Bur” words cited for comparison are actually loanwords from Indo-Aryan or Iranian languages. Thus, *dumáš* ‘cloud of dust, smoke, water’ (p. 31) is clearly borrowed from Old Indic³ *dhūmāḥ* ‘smoke, vapor, mist’⁴ (even the accent is the same); *púrme* ‘beforehand, before the time’ (p. 34) is isolated in the Bur lexicon and looks like a derivative of OI **purima-* > Pali *purima-* ‘earlier’ (CDIAL 8286; cf. Eng. *former*); *badá* ‘sole, step, pace’ (p. 40) appears to be from OI *padám* ‘step, pace, stride’ (CDIAL 7747), and perhaps others.

(b) Some comparisons adduced in support of the correspondences are semantically tortuous if not utterly dubious. For example, IE **d^heu-* ‘to die, to lose conscience (sic)’ ~ Bur *diú* ‘lynx’ (p. 36); IE **h₂erǵ-nt-om* ‘white (metal), silver’ ~ Bur *hargín* ‘dragon, ogre’, etc.

(c) The proposed correspondences are not consistent and do not form a coherent system. For example, IE **ǵ*, **ǵ^h* are said to correspond to Bur *g* (voiced velar stop) or *ǵ* (voiced uvular fricative) (p. 39), apparently in free variation, but in Bur *bérkat* ‘summit, peak, crest; height’ (pp. 30, 35) IE **ǵ^h* is matched with Bur *k* (voiceless velar stop), in Bur *buqhéni* ‘a type of goat’ (p. 31) IE **ǵ* is matched with Bur *qh* (aspirated uvular stop or affricate), and in Bur *je, já* ‘I’ (p. 72) IE **ǵ^h* is matched with Bur *j* [ǰ = dž]. IE **k^w* is said to correspond to Bur *k* (voiceless velar stop) (p. 38), but in Bur *-sógut* ‘the side of the body under the arm; bosom’ (p. 30) it is matched with Bur *ǵ* (voiced uvular fricative), while in Bur *waq* ‘open the mouth, talk’ (p. 38) it is matched with Bur *q* (voiceless uvular stop). PIE **w* (**u*) becomes Bur *w* in *waq* ‘open the mouth,

¹ The authors accept Nostratic/Eurasiatic and Dene-Caucasian as working hypotheses that represent, in our opinion, the best available explanations for language classification in northern Eurasia (see, e.g., Bengtson 2008b, Blažek 2003, 2008).

² For some history of the DC hypothesis see e.g. Bengtson (1994), Blažek & Bengtson (1995), Peiros (1988), Ruhlen (1996, 1998a, 2001).

³ Old Indic (OI) here encompasses Vedic and Classical (Sanskrit) forms of OI.

⁴ H. Berger (p.c. to author Bengtson) regarded Bur *dumáš* as a loanword from Indic (CDIAL 6849). See Bengtson (2001b, p. 185).

talk’ (p. 38),⁵ but *b* in *buḍóo* ‘rinsing water; water that becomes warm in the sun’ (p. 31).⁶ For Č the Bur uvulars (*q*, *qh*, *ḡ*) are merely variants of the velars and do not form an historical class of their own (but see [d.3] below).

(d) Č totally overlooks (or minimizes) many distinctive features of the Burushaski phonological system. These features include (1) the retroflex stops, (2) the phoneme /y/, (3) the uvular consonants, (4) the tripartite sibilant contrast /š ~ ś ~ s/, and (5) the cluster *-lt-*, and the *t-* ~ *-lt-* alternation (corresponding, we think, to Dene-Caucasian lateral affricates). We reproduce below (with minor modifications) the table of Burushaski consonants presented by Berger (1998, I: 13):

uvular	velar	retroflex	dental	retroflex	palatal	laminal	labial
				ʂ	ś	s	
qh	kh	ṭh	th	çh	čh	ch	ph
q	k	ṭ	t	ç	č	c	p
ḡ	g	ḍ	d	ǰ	j	z	b
	ŋ		n				m
h		r	l	y			

Table 1

(1) **The retroflex stops.** Č (pp. 26–27) claims “We do not know the genesis of the retroflex consonants in Bur ... we cannot know with certainty whether Bur originally possessed aspirates and cerebrals or whether these phonemes were acquired from IndoAryan.” Although Č does not discuss it, the DC hypothesis provides a ready explanation for at least some of the retroflex consonants in Bur:⁷

- Bur **giṭ* ‘anus; vulva; intestines with inner fat’ < **girt* or **gilt* ~ Caucasian: PEC **kwiltV* (Dargwa *kuḷṭa* ‘belly, stomach’, Agul *guṭul* ‘kidney’, etc.)⁸ ~ PY **giṭd* ‘fat’: Ket, Yug *kiṭt*, Kott *kīr*, Arin *ki* (NCED 711, CSCG 119)
- Bur **-phaṭ* ‘gizzard, stomach of fowl’ < **phart* ~ Caucasian: PEC **pHVrtwV* (Bezhta *pirṭi* ‘lung, bladder’, Archi *paṭṭi* ‘large intestine’, etc.)⁹ ~ Basque **e-purdi* ‘buttocks, rump’ (NCED 871, CSCG 160)¹⁰
- Bur **ḡiṭ* ‘slime’¹¹ < **ḡirt* ~ Caucasian: PEC **λwirdi* (Avar *xwerd* ‘pus’, Agul *furd* ‘dung’, etc.) ~ Basque **lirdi* ‘drivel, saliva’ ~ PST **lṽt* ‘mucus, phlegm’ (Tibetan *lud* ‘phlegm, mucus; manure, dung’, etc.) (NCED 763, LDC 19, CSCG 132)

⁵ See CSCG (p. 8) for an alternative comparison with DC.

⁶ Cf. instead OI **buḍyati* ‘sinks’, Marathi *buḍbuḍ* ‘sound of bubbling’, etc. (CDIAL 9272).

⁷ It is important to note that **ṭ* in Nikolaev’s & Starostin’s Caucasian reconstructions does not denote a retroflex stop but rather a *glottalized* stop (similarly with other glottalized obstruents: *ṭ*, *ç*, *č*, *ǰ*, *ḷ*, *k*, *q*). On the other hand, in this paper *ṭ*, *ṭh*, *ḍ*, *ṣ*, *ç*, *çh*, *ǰ*, *y* in Burushaski words always denote retroflex obstruents.

⁸ Some Caucasian words, e.g. Udi *gurdak* ‘kidney’, Tabasaran *gurdum* id., seem to reflect influence of Persian *gurde* ‘kidney’. Perhaps in some cases there is a blend of the Persian word with Proto-Lezgian **k:wirt-* (*k:wilt-*?) (thanks to E. Bashir, pc.).

⁹ *q* represents a pharyngealized vowel, also (confusingly) written *al*, where *l* represents the *paločka* in the Cyrillic orthography of Caucasian languages (Catford 1977: 296).

¹⁰ Assuming a semantic development such as ‘large intestine > colon > rectum > buttock’ in Basque. Cf. OI *gudā-* ‘intestine, entrail, rectum, anus’, Sindhi *guī* ‘anus, posterior’, etc. (CDIAL 4194).

¹¹ ‘Schlamm (feucht oder ausgetrocknet)’ (Berger 1998). E. Bashir (pc.) suggests possible Indo-Aryan origin: cf. Panjabi *giḍḍ* ~ *gidd* ‘matter that accumulates in the corner of the eye’.

- Bur **čhaḍ-úm* ‘narrow’¹² < **čhard-* ~ Caucasian: PEC **čHVrdV* ‘narrow’ (Avar *č:edera-b*, Dargwa Akushi *čarṭa*, etc.) ~ PY **toʔd-* (~ **coʔd-*) ‘shallow (of a river)’ (NCED 387, CSCG 199)
- Bur **gaṭú* ‘clothes’ < **gart-* ~ Caucasian: PEC **gwiṛdwV* ‘a kind of clothing’ (Avar *gordé* ‘shirt’, Dargwa Akushi *gurdi* ‘dress’, etc.) ~ PY **χʊʔt(ír₁)* ‘cloth, felt’ > Arin *qot, kot* ‘trousers’, etc. (NCED 449, CSCG 223)

These examples suggest that the Proto-DC intervocalic clusters **-lt-*, **-rʔ-*, **-rd-* regularly correspond to Bur retroflex consonants. While this process does not account for all occurrences of retroflex consonants in Burushaski, it does indicate a very old origin of the retroflex series that is analogous to the origin of retroflexes in Indo-Aryan.¹³ (See below for the development of a new cluster /lt/ in Bur.)

(2) The Bur phoneme /y/. Č (p. 25) briefly mentions Bur /y/, but it has no real place in his IE-Bur phonology. As far as we can see, /y/ figures in only one of Č’s Bur-IE comparisons, that of Bur *ḡuy-an* ‘hair’ with IE **gour-* ‘hair’ (p. 32). Č provides no explanation of why IE **r* becomes Bur /y/ in just this one case.¹⁴ This seems to us a very unsatisfactory treatment of this important Bur phoneme. Before presenting our view of the genesis of /y/, some further information is necessary:

Burushaski and Ḍomāki (an Indo-Aryan language spoken in parts of the Burushaski-speaking area)¹⁵ have an unusual consonant [y], variously described as “a fricative *r*, pronounced with the tongue in the retroflex (‘cerebral’) position” (Morgenstierne 1945), “a kind of *r* ! *y* and *ž*” (Lorimer 1937: 72), “a voiced retroflex sibilant with simultaneous palatal-dorsal narrowing” (Berger 1998), “a curious sound whose phonetic realizations vary from a retroflex, spirantized glide, to a retroflex velarized spirant” (Anderson, ms.). Because of the elusive character of this sound, it has been transcribed in various ways; for example, the word for ‘my father’, transcribed here as *áya*, is found in the literature as *aiyah*, *álya*, *āgha*, *aya*, or *ara*.

As noted by Morgenstierne (1945), Bur [y] in loanwords from Indo-Aryan derives from the retroflex sound **r*, which in turn can come from **t*, **d*, **dh*. Morgenstierne and Berger cite the examples:

- Bur (H,N) *day* ‘fat, strong, robust’ < OI *dr̥d̥ha-* (Beiträge 36, no. 3.35)
- Bur (H,N) *báyum* ‘mare’ < **vaḍam-* = OI *vaḍabā-* (Beiträge, ibid.)
- Bur (H) *páayo*, (N) *páyo*, (Y) *pálu* ‘wedge’ < OI *pāṭaka-* (Beiträge 24, no. 3.13)
- Bur (H, N) *kiláay* ‘beesting curds’ = Late OI *kilāṭa* ‘cheese’ (but see further below)

Note also:

- [y] is heard in the Hunza and Nager dialects, but not in Yasin (“Werchikwar”), where [y] either corresponds to zero (as in *ba* for *bay* ‘millet’) or a different phoneme: Yasin *pálu* ‘wedge’ ~ (H) *páayo*, (N) *páyo*; Yasin *khaç* ‘(stony) shore, bank’ ~ (H, N) *khay*, etc.;

¹² The variant (Y, H) *č(h)an-úm* appears to be contaminated by the verb *du-č(h)an-*.

¹³ “The development **lt* > retroflex is evident also from early Indo-Aryan, and later again in the Prakrits. Nostraticists explain Dravidian retroflexes in the same way. This areal tendency should probably not be attributed to influence of Dravidian (which is not seen in the early Rgveda), but as an areal feature of the Northwest (of Greater India), as seen in Bur, Pashto, Old Indic of the Rgveda, and later also Khotanese Saka.” (M. Witzel, pc.)

¹⁴ /y/ is also seen in Č’s comparison of Bur *biy* ‘butter’ with IE **pī-* ‘fat’ (p. 40), though no IE suffix corresponding to Bur *-y* is proffered.

¹⁵ Ḍomāki, an endangered language, is spoken in the village of Mominabad (Hunza) and in a couple of villages in Nager (B. Tikkanen, p.c.).

- Berger (1998 I: 22, note 8) also finds [y] similar to the Tamil sound commonly transcribed as *l*;
- Place names confirm the ancient affinity of [y] with [l] or other laterals: Bur *Námáy* = Normal; *Punyáāy* = Punial (Lorimer 1937: 73);
- The Bur word (H, N) *kiláay* ‘Quark aus Biestmilch’ is found in Vedic as *kilāla*- ‘beestings, a sweet drink’ (Witzel 1999: 3), also in Khowar as *kilāl*, *kilāri*;
- Some Indo-Aryan dialects (including those of some Vedic texts) have/had a retroflex *l* corresponding to the *ḷ* of Classical OI,¹⁶ as in Ved. *nīlá*- ‘nest’ = Skt. *nīḷa*- < PIE **nizdó*-.

With that background, we propose that Burushaski [y] — apart from loanwords — ultimately derives from laterals (**l, *l̥*) and clusters involving laterals (e.g., **l̥c, *l̥č, *l̥χ, *fil*) in Proto-DC. The following examples support this interpretation:

- Bur **ḡay* ‘thread, strand (in weaving)’ ~ Caucasian: Lezgi *kal* = *ḡal* ‘thread’, etc. < PEC **χālV* ‘sinew, thread’ (NCED 1067) ~ Basque: **ha[l]i* ‘thread, yarn, filament, wire’
- Bur **khiy* > (H,N) *khiy* ‘leaf’, (Y) *khi-án* ‘(fallen) leaves’ ~ Caucasian: Tindi *koli*, Abkhaz *a-ḡála* ‘sheaf’, etc. < PNC **k̥əwł̥V* (NCED 690).
- Bur **qhiyé* > (H,N) *qhiyé* ‘(single, small) stones, gravel’ ~ Caucasian: Archi *ḡwil* ‘rock, cliff’, Abkhaz *a-ḡ^wa-rá* ‘rocky river bank’, etc. < PNC **ḡwitā* (NCED 939)
- Bur **bay*, (Y) *ba* ‘(small-grained) millet’ ~ Caucasian: Chechen *borc* ‘millet’, etc. < PNC **bōl̥cwi* (NCED 309, CSCG 15)
- Bur **huy-* ‘to dry’¹⁷ ~ Caucasian: Dargwa Urakhi = *irč-/uč-* ‘to roast, fry’, etc. < PEC **=i[l]čwĒ* ‘to roast, fry, dry’ (NCED 633, CSCG 103)
- Bur **huyóo* > (H,N) *huyóo* ‘wool animal, sheep’ ~ Caucasian: Chechen *ḡāχa-r* ‘lamb’, Andi *iχo* ‘sheep, ewe’, etc. < PNC **ḡilχU* (NCED 247, CSCG 265)
- Bur **ḡuy* ‘hair’¹⁸ ~ Caucasian: Chechen *ēχang* ‘woollen thread, yarn’, Rutul *arχ* ‘spring wool’, Tsakhur *arχ* ‘autumn wool’, etc.¹⁹ < PEC **ḡālχV* ‘wool’ (NCED 242) ~ Basque **ulhe* ‘hair, wool’
- Bur **ḡaqáy(-um)* ‘bitter; unsweetened; sour’ > *ḡaqáy(-um)* (H,N), *qaqám* (Y) ~ Caucasian: Archi *ḡala* ‘bitter’, Khinalug *ḡilez* ‘salty’, Ubykh *ḡaqá* ‘sweet’, etc. < PNC **ḡěhlV* (~ *-t-*) (NCED 912) ~ PY **qVqVr* ‘gall; bitter’ ~ Basque: **kerac* ‘bitter, sour; stench’ (CSCG 236)²⁰

The following examples indicate DC lateral suffixes (**-alV, *-ulV, *-ilV*) with the reflexes /ay/, /uy/ in Bur:

- Bur **tumáy* ‘shell of nut, fruit stone’ ~ Caucasian: Archi *ḡummul* ‘grape’, Budukh *ḡombul* ‘plum’, etc. < Proto-Lezgian **ḡum(:)ul* (beside suffixless Chechen, Ingush, Batsbi *ḡum* ‘marrow; kernel of fruit, nut’) < PNC **ḡūmhV* ‘kernel, nut, fruit-stone; marrow’ (NCED 1004, CSCG 205)

¹⁶ “The Rgveda originally did not have [retroflex *l*] but acquired it only during [oral] transmission, by c. 500 BCE. And Pāṇini also does not have it in his grammar ... He does not even have the vowel *l* [l̥], just the vowel *r* [r]. The later Vedic (Post-Rgveda) record is quite checkered [in regard to retroflex *l*]. The Delhi area and some texts east and south of it had such a retroflex. ... [retroflex *l*] is now found in the mountain area of Indo-Aryan, from the Afghan border to the western Nepalese border.” (M. Witzel, p.c.).

¹⁷ (H, N) *b-úy-*, (Y) *b-u-*, *du-hu-*.

¹⁸ (Y) *ḡóyan*, (H,N) *ḡuyán* ‘hair’ (both with ordinary /y/), (N) *-thóḡuy* ‘fine hair of small children’, also in (H) *phul-ḡúuy*, (N) *phur-ḡúuy* ‘feather’.

¹⁹ /χ/ denotes the Caucasian pharyngealized voiceless uvular affricate = NCED /χI/.

²⁰ For semantics, cf. Albanian *ëmbël* ‘sweet’, Armenian *amokh* ‘sweet’, maybe cognate with Latin *amārus* ‘bitter’, Old Swedish *amper* ‘sauer, scharf, bitter’, etc.

- Bur (N) *-pháǵuy* ‘stick, walking-stick’ (beside [H] *-pháǵo*) ~ Caucasian: Andi *moq’ol* ‘ceiling’ (beside suffixless Avar *moq’*: ‘pole’, Tsez *maq* ‘short stick, rod’,²¹ etc.) < PNC **bhānqǎ* ‘pole, post’ ~ Basque **makila* ‘stick, cane’ (beside Bizkaian *mak-et* ‘club’, with a different suffix)²² (NCED 295, CSCG 14)
- Bur *qarúuyo* (H), *ǵarúuyo* (N) ‘heron’ ~ Basque **kuřV(-lo)* ‘crane’ (Bizkaian, Gipuzkoan *kurrillo*, *kurlo*, Zuberoan *khürlo*, vs. suffixless Low Navarrese *kurru*, Roncalese *kurri*);²³ Caucasian words for ‘crane’ display a variety of suffixes and reduplications: cf. Chechen *karbuli* = *ǵarǵuli*, Andi *q:urru*, Karata *q:uru-n*, Adyge *q:araw* ‘crane’, etc. < PNC **ǵārāǵwV* beside the simplex **ǵwVrV* (NCED 914–5, CSCG 237).

We believe we have shown that the Bur phoneme /y/ is an integral feature of the language, and that only the DC model provides a plausible explanation of its origin.

(3) The uvular consonants. The Bur uvular consonants, as a class, are totally ignored by Č, to whom /q/, /qh/, and /ǵ/ are simply erratically occurring variants of /k/, /kh/, and /g/. We intend to show that the Bur uvulars constitute a class of importance and long standing in the language, and can be derived from the DC uvulars.²⁴

- Bur *qarúuyo* ~ *ǵarúuyo* ‘heron’ ~ Basque **kuřV(-lo)* ‘crane’ ~ PNC **ǵārāǵwV* / **ǵwVrV* ‘crane’ (see above)
- Bur **qVt-* > *-qat* (H), *-qhat* (N), *-qet-araŋ* (Y) ‘armpit’ ~ Caucasian: Avar *me-héd* ‘brisket (chest of animal)’, Bezhta *vade* = *ǵade* ‘brisket’ < PEC **qVdV* (NCED 897) ~ PY **qot-* (~*χot-*) ‘in front, before’ (cf. Eng. *abreast*, etc.) (CSCG 170)
- Bur **qorqor-* > (H) *qorqór* ‘soft porous stone’, (N) *qoqór* ‘small stones’ ~ Caucasian: Dargwa *q:arq:a* ‘stone’, etc. < PEC **GörGV*²⁵ ~ Basque **gogoř* ‘hard’
- Bur **quś-* > (Y) *quś* ‘armpit (of clothing)’ ~ Caucasian: PNC **ǵHwačǵi* ‘hole, hollow’ > Chamalal *q:učǵa* ‘vagina’, Lezgi *quč* ‘armpit’, etc. (NCED 922, CSCG 176)
- Bur. **qaq-* ‘dry, hungry’ ~ PY **qV[(?)G]i-* ‘dry’: Kott *xújga*, Arin *qoija*, etc. ~ PNC **GwiGwǻr:* Lak *q’a-q’-* ‘dry’, etc. (CSCG 223)
- Bur **qhaś-* > *-qhásin* (H,N) ‘hind end, arse’, *-xásan* (Y) ‘female sex organ’ ~ Caucasian: Udi *qoš* ‘behind’, etc. < PEC **-VqV* (NCED 1026)
- Bur **qhát-* > *-qhát* (H,N), *-xát*, *-xat* (Y) ‘mouth’ ~ Caucasian: Lak *qit* (dial. *qʷit*, *qut*) ‘Adam’s apple, beak’, etc.²⁶ < PEC **qwǵi* (NCED 905, CSCG 172)
- Bur **qhurc* ‘dust’ ~ Caucasian: Tsez, Khwarshi *qec* ‘dirt, mud, slush’, Lezgi *χanc* ‘a layer of hardened dirt’, etc. < PNC **qānVčwV* (NCED 884, CSCG 169)

²¹ /ǵ/ denotes a pharyngeal vowel = NCED /aI/.

²² The supposed derivation of **makila* from Latin *bacilla* (pl.) ‘sticks’ (Trask 2008: 281) seems to us to be rather a case of chance resemblance. Lat. *bacilla* cannot account for the Bizk. form *maket*. Lat. *bacillum*, *baculum* are themselves suspect, having the rare PIE phoneme **b-*, and reflexes of PIE **bak-* (if it existed) are found only in western IE languages for which hypothetical DC-like substrata have been supposed.

²³ One could suspect derivation of the Basque words from Romance (cf. Latin *grūs*, Italian *gru*, French *grue*, Spanish *grúa*, *grulla*), but the Basque words always have initial /k/ vs. Romance /g/, and in Romance a lateral suffix is found only in the Castilian variant *grulla*, where we can suspect Vasconic influence, or a blend of Romance *grúa* + Basque *kurrillo*. The Basque simplex forms Low Navarrese *kurru*, Roncalese *kurri* are parallel to the Caucasian simplex forms such as Andi *q:urru*, Karata *q:uru-n* ‘crane’ (NCED 915).

²⁴ In Basque all DC uvulars become velars /k, g/ or the spirant /h/; in a few cases **Gʷ* > **gʷ* > /b/.

²⁵ < **GörqV* or **qörGV*?

²⁶ /i/, /u/ denote pharyngealized vowels = NCED /iI/, /uI/.

- Bur **qhái* ‘revenge’ ~ PY **χV(?)j-* ‘to be angry’ ~ Caucasian: Udi *χuj* ‘anger’, Dargwa *qa* ‘oath’, etc.²⁷ < PEC **qwějV̄* (NCED 901, CSCG 171)
- Bur *-qhúrpat* (H,N), *-xórpēt* (Y) ‘lung’ ~ ? Cauc.: Tsez *χoṭori*, Lak *hutru*, etc. ‘lung’ < PEC **qwalθV(rV̄) ~ *χwalθV(rV̄)* (NCED 901) ~ ? Basque **hauspo* ‘bellows, lungs’ (LDC 22)²⁸
- Bur **qhVltá* ‘sack, pocket’ > (H) *qhiltá*, (N) *qháltá*, (Y) *xalt(y)á* ~ Caucasian: Akhwakh *q:ēḷe* ‘sack, pillow’, etc. < PEC **GHřrλwV* (NCED 457, CSCG 55)
- Bur **ğaqáy(-um)* ‘bitter; unsweetened; sour’ ~ PNC **q̄ěhlV* ~ PY **qVqVr* ‘gall; bitter’ ~ Basque **keraç* ‘bitter, sour; stench’, etc. (see above)
- Bur **ğul* ‘grudge, enmity, hatred’ ~ Caucasian: Avar *ḡ^wel* = *ğ^wel* ‘gossip, rumor; abuse’, Khinalug *qol* ‘offence’, etc. < PEC **Gwātho* (NCED 465) ~ PY **qə(?)r-* (χ-) ‘angry’ ~ Basque **bVrhao / *bVraho* ‘curse, blasphemy’ (CSCG 55)
- Bur **cháğur* ‘chest or box for grain or meal’ ~ Caucasian: Avar *cağúr* = *cağúr* ‘corn bin, barn’, Chechen *cχar* ‘penthouse’, etc. < PEC **cVGVr-* (NCED 328, CSCG 189)
- Bur *ğónderes*, *ğondoles* (Y) ‘water that runs over many stones’ ~ Cauc.: Botlikh *ḡadaru* = *ğadaru* ‘stream, brook’, Lak *qtara* ‘mountain stream’, etc. < PEC **GHwadVrV* (NCED 478, CSCG 185)
- Bur **ğórqu-* > *ğúrqu* (H), *ğúrquc* (N), *ğórkun* (Y) ‘frog’ ~ Caucasian: Tindi *qorq:u*, *qoq:u*, Khinalug *qurqor*, Kabardian *ḡandar-q:ḡāq:ḡa*, etc. ‘frog’ < PNC **q̄wVrVq̄V̄* (NCED 942) ~ PY **xəʔr-* ‘frog’ > Ket, Yug *ʔl*, Arin *kere* (CSCG 243)
- Bur **ltağ* > *tağ* (Y) ‘branch, shoot’²⁹ ~ Caucasian: Avar *λ:ox*: ‘stubble’, etc. < PEC **λhwāχV* ‘stick, chip’ (NCED 778, CSCG 137)
- Bur **ğay* ‘thread, strand (in weaving)’ ~ PEC **χātV* ‘sinew, thread’ ~ Basque **ha[l]i* ‘thread, yarn, filament, wire’ (see above)

The Bur uvulars are thus far from being merely peripheral and erratic variations of the velars: they constitute an integral series in the Bur phonological system that cannot be understood apart from the DC context from which they arose.

(4) The tripartite sibilant (and sibilant affricate) contrast. A sibilant contrast with three points of articulation that carries through to sibilant affricates, though ignored by Č, is a significant feature of Burushaski phonology that did not exist in Proto-IE,³⁰ but is characteristic of Caucasian languages as well as of Basque. Below is the Burushaski system as outlined by Berger (1998, I: 13):

laminal	palatal	retroflex
s	ś	ṣ
ch	čh	ḥ
c	ć	ç
z	j	ḷ

Table 2

²⁷ /a/ denotes a pharyngeal vowel = NCED /aI/.

²⁸ A questionable comparison. At the very least, there have been some irregular changes and/or contaminations, e.g. Basque **hauspo* with **hauç* ‘dust’, etc.

²⁹ See below for the correspondence of Bur *t-* with Caucasian lateral affricates.

³⁰ Unlike most IE languages, Old Indic had a triple contrast (*s*, *ś*, *ṣ*). We suggest that this was an areal feature acquired by early Indic as its speakers sojourned in the Hindu-Kush area. “A good point again about the three sibilants in IA: Iranian only has two (*š* and *s*). I agree with your assessment as an areal feature: again the NW [northwestern Greater India]. Note that many other forms result from the NW predilection for ‘bending back the tongue’: (PIE) **rēk’s* > **rāçš* > **rāçṣ* > (Skt) *rāṭ* (nom. ‘the king’).” (M. Witzel, p.c.).

This is very similar to the slightly more complex system reconstructed for Proto-Caucasian (NCED, p. 40; palatal = hissing-hushing):

hissing	palatal	hushing
s	ś	š
z	ź	ž
c	ć	č
ʒ	ʒ̣	ẓ̌
ç	ć̣	č̣

Table 3

And cf. the more simplified system of Basque (Hualde 1991):

lamino-alveolar	apico-alveolar	palatal
s	ś	š
c	ć	č

Table 4

In the Basque orthographic system the sounds /s/, /ś/, /š/, /c/, /ć/, /č/ are denoted by the letters *z, s, x, tz, ts, tx*, respectively.

We think it interesting that this characteristic DC pattern has been maintained to the present day in widely separated descendant languages. Naturally, there have been extensive changes, but the systems as a whole have remained.

The following comparisons are typical of the Bur system of sibilants and affricates and their relationship to those of other DC languages. Note that some of the phonetic correspondences are complex, and CSCP (Starostin 2005b) should be consulted for the details.

- Bur *'-s 'heart, mind' ~ Caucasian: Ubykh *p-sa* 'soul, spirit', Bezhta, Hunzib *has* 'sky, cloud, fog', etc. < PNC *ʒəm̩sa ~ Basque *faise 'wind' ~ Yeniseian: PY *ʔes 'God, sky' (NCED 243, CSCG 263)³¹
- Bur *'-so[m] 'kidney'³² ~ Caucasian: Chechen *sam-g* 'sausage (made from a large intestine)', Akhwakh *s:e* 'sinew, muscle', etc. < PEC *śēm̩V / *hēm̩śV ~ Basque *sain 'vein, nerve, root' (NCED 959, CSCG 187)³³
- Bur *'-sV̄sVn 'elbow'³⁴ ~ Caucasian: Udi *sun* 'elbow', Lak *s:an* 'foreleg, paw', etc. < PEC *śm̩ñ ~ Basque *san-ko 'leg, calf, foot, paw', etc. (NCED 963, CSCG 187)
- Bur *sán 'spleen' ~ Caucasian: Archi *s:am* 'gall', Dargwa *sumi 'gall, anger', etc. < PNC *çwǎj̄m̩ě ~ Basque *beHa-su[m] 'gall' (NCED 329, LDC 18, CSCG 22)

³¹ For semantics, cf. Rumanian *inimă* 'heart, soul, mind,' etc. < Latin *anima* 'wind, air, breath, spirit, mind', etc.

³² Underlying *m* found in the plural form '-somuc.

³³ Starostin (CSCG 187) adds the following Sino-Tibetan forms: PST *siəm 'heart, soul' > Old Chinese *səm 'heart'; Tibetan *sem(s)* 'soul; think', *b-sam* 'thought'; Burmese *simh* 'to conceive, be in the charge of'; Lushai *thiam* 'to know'; Lepcha *a-sóm* 'spirit, breath', etc. For semantics, cf. e.g. Skt. *hīra-* 'band, strip, fillet', *hirā* 'vein, artery'; Gk. χορδή 'gut, cord, string'; Lat. *hīra* 'empty gut'; Lith. *žarnà* 'intestine, small intestine'; Ger. *Garn* 'yarn, thread, net', Eng. *yarn*, etc. (IEW I: 604); Turkish *böbrek* 'kidney'; Proto-Tungus-Manchu *pugi- / *puki- 'intestines, stomach' Proto-Japanese: *púnkúri 'testicles' (ToB).

³⁴ (Y) -sésen, (H, N) -súsun.

- Bur **-sú[m]* ‘umbilical cord, navel’³⁵ ~ Caucasian: Dargwa *zu* ‘navel’, Khinalug *c’um* id., etc. < PEC **zǝnʔǝ* (NCED 1096, CSCG 249)
- Bur **sa* ‘sun, day, month’ ~ Caucasian: Lak *s:aw* ‘sky’, Botlikh *ziwu* ‘day’, etc. < PNC **zǝwǝ* (NCED 1092, CSCG 248)
- Bur **sum* ‘sprout, shoot; tail; spout (of a vessel)’ ~ Caucasian: Lak *c’un* ‘spout (of a vessel)’, Chechen *c’om* ‘trunk’, etc. < PEC **cǝmV* (~ **zǝmV*) (NCED 367, CSCG 249)
- Bur **sesin-* ‘clear, clean’ ~ Caucasian: Chechen *c’ena* ‘clean, pure’, Abaza *b-zi* ‘good’, etc. < PNC **Hǝzǝm-* ~ Basque **susen* ‘right, correct, just’ (NCED 552, LDC 189, CSCG 64)³⁶
- Bur **-sqa* ‘(on one’s) back’ ~ Caucasian: Proto-Abkhaz-Tapant **zak^wa* ‘back’ ~ Basque **bi-ska-r̄* ‘back; crest, hill’ ~ PY **suga* / **ʔuska* ‘back, backwards’ (ToB)
- Bur **bus* ‘sheaf (of grass, hay)’ ~ Caucasian: Chechen *buc* ‘grass’, Adyge *wacə* id., etc. < PNC **wǝcV̄* (NCED 1053, CSCG 219)
- Bur **kūs* ‘wonder, sorcery’ ~ Caucasian: Ingush *kust* ‘bearing, appearance, figure’, Archi *kus* ‘habit’, etc. < PEC **kwǝjǝV* ~ Basque **hoć* ‘noise, sound; fame, reputation; longing, mania’, etc. ~ Yeniseian: PY **k[uʔu]s* ‘idol, ghost’ (NCED 710, CSCG 118)
- Bur **bas* ‘wooden plow’ ~ Caucasian: Karata *bec:e* ‘wooden plow’, Abkhaz *a-páza* ‘plow-share’, etc. < PNC **pVrVcǝ* (NCED 877, CSCG 164)
- Bur **mos* ‘mud avalanche’ ~ Caucasian: Agul *mes* ‘mould’, etc. < PEC **mǝswV* ~ PY **puʔs* ‘mould’ (NCED 296 [note], CSCG 141)
- Bur **sí* ‘fireplace, hearth’ ~ Caucasian: Ingush *c’i* ‘fire’, Lak *c’u* id., Abkhaz *á-m-ca* id., etc. < PNC **cǝjǝ* ~ Basque **su* ‘fire’ (NCED 354, CSCG 23)
- Bur **sé[m]* ‘wool’³⁷ ~ Caucasian: Lezgi *r-çam* ‘eyebrow’ (< **‘eye-wool’*), Chechen *çoçqam* id., etc. < PEC **çhwǝme* ~ Basque **sama-r̄* ‘fleece, mane; chamarra’, etc. ~ Yeniseian: PY **cǝje* ‘hair’ ~ PST **chām* ‘hair (of head)’ > Kanauri *cam* ‘wool, fleece’, etc. (NCED 364, CSCG 27)
- Bur **sulú* ‘driftwood’³⁸ ~ Caucasian: Tindi *c:ela* ‘rod’, Abkhaz *á-c’la* ‘tree’, etc. < PNC **cǝʔV* ~ **cǝʔV* ~ PST **Cal* ~ **Cəl* ‘wood’ (NCED 362, CSCG 26)
- Bur **-sánj* ‘limbs, body parts’ ~ Caucasian: Lezgi *çum* ‘shin-bone’, Bezhta *ōc* ‘knuckle-bone’, etc. < PEC **Hçwǝjnǝ* ~ Basque **soin* ‘shoulder, upper back’, etc. (NCED 555, CSCG 66)
- Bur **son* ‘blind’ ~ Caucasian: Lak *çan* ‘darkness’, Ubykh *ža* ‘black’, etc. < PNC **çǝwnV* (NCED 352, CSCG 24)
- Bur **sóq-um* ‘wide, broad’ ~ Caucasian: Dargwa Chirag *çaq^w-* ‘high’, Kabardian *-šx^wa* ‘big’, etc. < PNC **çHǝqwV* ~ Basque **aško* ‘much, many’, **aški* ‘enough’ ~ PST **cǝk* ~ **žǝk* ‘enough, sufficient’ (NCED 386, CSCG 36)
- Bur **súsun* ‘(child’s) penis’ ~ Caucasian: Lezgi *çuç* ‘spout (of a tea-pot)’, Kryz *çič* ‘clitoris, ring-stone’, etc. < PEC **cǝçV* ~ Basque **soc* ‘spigot, faucet’ (NCED 367, CSCG 28)
- Bur **sō* ‘dried leaves, stalks, roots’, etc. ~ Caucasian: Avar *š:waji* ‘small chaff’, Khinalug *pšä* ‘bread’, etc. < PNC **sǝwǝ* ~ Basque **osi* ‘germ of grain, shoot that becomes a head of grain’ ~ PST **sej* ‘seed, fruit’ (NCED 977, CSCG 195)
- Bur **quś-* ‘armpit (of clothing)’ ~ Lezgi *quç* ‘armpit’, etc. (see above)
- Bur **aúsi-* ‘guest’³⁹ ~ Caucasian: Chechen *hǝša* ‘guest’, Ubykh *pça* id., etc. < PNC **HV̄çwǝ* ~ PY **ʔǝç* (**çá-*) ‘guest’ ~ Basque **haušo* ‘neighbor’ (NCED 612, LDC 179, CSCG 83)

³⁵ Underlying *m* found in the plural form *-súimuc*.

³⁶ The semantic values in some languages apparently reflect the development: ‘clean > pure > good > correct, right’.

³⁷ Underlying final *m* found in the plural form *sémiñj*.

³⁸ “consider Kalasha [şulá] ‘firewood’ ... with an IA etymology (T 12349 [< OI *śalākā* f. ‘any small stake or stick’])” (E. Bashir, p.c.).

- Bur **śi* / **ši* / **šu* ‘to eat’ ~ Caucasian: Tsez, Khwarshi =aç- ‘to eat’, Tindi *c:a-* ‘to drink’, etc. < PEC *=V_čV ~ Basque **auśi*-ki ‘to bite’ ~ Yeniseian: PY **sī-* ‘to eat’ ~ PST **zha* id. (NCED 1017, CSCG 209)
- Bur **şuqúr* ‘sour, to sour’ ~ Caucasian: Andi *ç:ik:u* ‘sour’, etc. < PEC **çākwV* ‘sour, raw’ ~ PST **sāk* ‘bitter, pungent’ (NCED 356, CSCG 24)
- Bur **şúli* ‘tube, pipe’⁴⁰ ~ Caucasian: Avar (dial.) *şulu* ‘pipe’, Hunzib *şelu* ‘horn’, etc. < PEC **şwōl(H)V* ~ Basque **sulho* ‘hole, cave’ (NCED 978, CSCG 195)
- Bur **şinj* ‘milk’ ~ Caucasian: Chechen *şin* ‘udder’, Andi *ş:iwu*, *ş:imu* ‘milk’, etc. < PNC **şām?V* ~ Basque **e-Sene* ‘milk’ ~ PY **de(?)n* ‘nipple, milk’ (NCED 982, CSCG 196)
- Bur **ltiş* > **tiş* ‘wind’ ~ PEC **λ[a]rčV* ‘movement of air’ > Khwarshi *laca* ‘wind’, Tindi *lač:u* ‘voice, shout’, etc. (NCED 767, CSCG 134)
- Bur **hiş* ‘breath’⁴¹ ~ Caucasian: Chechen *hožu* ‘odor’, Ingush *haž*, Batsbi *haič* < Proto-Nakh **hač* ‘odor’ ~ Basque **hač* ‘breath; stench’ (LDC 17)
- Bur **-meş* ‘finger, toe’ ~ Caucasian: Kryz *miček* ‘nail, claw, hoof’, etc. < PEC *(H)*mičV* ~ *(H)*mičV* ~ Yeniseian: Ket *bēs-taq⁵* ‘index finger’ (NCED 819 [as **mičV* ~ **mičV*], LDC 38, CSCG 77)
- Bur **muş-* > *muşk* (H, N, Y) ‘wood, thicket’, *muş-qú* (H, N) ‘branches with leaves’ ~ Caucasian: Dargwa *murç* ‘rod, stick, vine’, Abkhaz *a-mčá* ‘wood, firewood’, etc. < PNC **mučU* / **čumU* ~ Basque **moškoř* ‘trunk of a tree’ < **moš-ko-ř* (NCED 833, CSCG 147)
- Bur **-ci-* ‘to kindle’ ~ Caucasian: Abkhaz *a-cá* ‘hot’, Rutul =*isa-* ‘to roast (grain)’, etc. < PNC *=*ērčĀ* ~ Basque **i-se-(ki)* ‘to set fire, kindle, burn’, etc. ~ PST **cha* ‘hot’ (NCED 415, CSCG 48)
- Bur **ca-* ‘to stand’ ~ Caucasian: Lak =*a-c’a-* ‘to stand’, Akhwakh *heč’-* ‘to stand up, raise’, etc. < PEC **HērčV-* ~ Basque **e-ašV* (standard *jaso*, *jasan*) ‘to lift, raise, support, bear’, etc. ~ Yeniseian: PY **ta-*, **pa-ta-* ‘to stand up’ (NCED 562, CSCG 67)
- Bur **bácin* ‘shank, hind leg above the hock’ ~ Caucasian: Chamalal *bec^w* ‘knee (of animal), thigh’, Tsez *besi* ‘fist’, etc. < PEC **b[ə]čV* ~ Basque **borc* ‘five’ (< *‘hand’) ~ Yeniseian: PY **bałt-* ‘knee’ ~ PST **pūt(-s)* ‘knee’ (NCED 291, CSCG 19)
- Bur **bac* ‘small terrace between mountains, grown with grass’ ~ Caucasian: Akhwakh *beča*, Tindi *besa* ‘mountain’, etc. < PEC **wīce* ~ Basque **bašo* ‘forest, desert’ (NCED 1053, CSCG 217)
- Bur **-ncu* ‘paternal aunt’ ~ Caucasian: Chechen *nēca* ‘maternal aunt or uncle’, Abkhaz *áca* ‘sister-in-law, daughter-in-law’, etc. < PNC **nEčV* ~ **čEnV* ~ Basque **neś-ka* ‘girl, unmarried young woman’ (NCED 322, CSCG 153)
- Bur **-jēc-* ‘to see’⁴² ~ Caucasian: Hunzib =*āč-* ‘to see’, Ubykh *ča-* ‘to know’, etc. < PNC *=*āmčĒ* ~ Basque **e-ncu-n* ‘to hear’ ~ Yeniseian: PY **?Vt-* ‘to know’ ~ PST **siə(H)* ‘to know, think’ (NCED 262, CSCG 4)
- Bur **phunc* ‘dew’ ~ Caucasian: Lak *pič* ‘dew, sweat’, Dargwa *penç* ‘resin’, etc. < PNC **pīnčwĀ* ~ Yeniseian: PY **piłt* ‘glue’ (< *‘resin’)
- Bur **qhurc* ‘dust’ ~ Caucasian: Tsez *qec* ‘dirt, mud, slush’, etc. (see above)

³⁹ (Y) *aísen*, *aúsin*, pl. *aúsu*, (H, N) *oósin*, pl. *oóso*. “The word is also present in Shina *ōōšo* ‘guest’, where it is most probably < Burushaski (despite highly dubious derivation in Turner 427 < Skt. **apadeśya-*)” (CSCG 83). “I think that this is probably an IA element. There are a considerable number of words in Khovar in which the initial *aw-* element is related to a meaning of ‘separateness, distance’, e.g. *a(u)werik* ‘to take away’ or *awizá* ‘relative’, which seem to show the IA *apa-* element. This again would seem to be more likely to be an old IA loan” (E. Bashir, p.c.).

⁴⁰ ‘Gewehrlauf; Schnabel (an einem Gefäß); Rohr zum Anblasen des Feuers’ (Berger 1998).

⁴¹ (Y, H, N) *hiş* ‘breath’, (Y) also *-héş* ‘breath’, (H, N) *hĩş* ‘sigh’ (with secondary nasalization).

⁴² “The reconstruction of Bur. ‘to see’ would probably be **-jēc-*. The double vowel suggests that there may once have been a consonant (probably /g/ or /h/) between the vowels.” (B. Tikkanen, p.c.)

- Bur **chágur* ‘chest or box for grain or meal’ ~ Caucasian: Avar *cavúr* = *cağúr* ‘corn bin, barn’, etc. (see above)
- Bur **chigír* ‘goat’ ~ Caucasian: Lak *çuku* ‘goat’, Andi *ç:ekir* ‘kid’, etc. < PEC **žikV̄* / **kizV̄* ~ Basque **sikiro* ‘castrated ram’ (NCED 1094, CSCG 187)
- Bur **chul-* ‘male breeding stock’⁴³ ~ Caucasian: Andi *çora* ‘heifer’, Agul *luç* ‘heifer’, etc. < PEC **HçwālV̄* ~ **HlīçwV̄* ~ Basque **čahal* ‘calf’ (NCED 556)
- Bur **ć(h)iki* > (Y) *ćiki* ‘small’ ~ Caucasian: Tabasaran *žiq:i* ‘short’, Chamalal *çik:u-b* ‘small, short’, etc. < PNC **žikwǎ* ~ Basque **čiki* ‘small’ ~ Yeniseian: Kott *thūki* ‘short’ (NCED 1108, LDC 194, CSCG 197)
- Bur *ć(h)argV* > (Y) *ćargé* ‘flying squirrel’ ~ Caucasian: Adyge *cax^{wa}* = *cəğ^{wa}* ‘marten, mouse’, Chechen *šaŋqa* ‘weasel’, etc. < PNC **cārgwV* ~ Basque **šagu* ‘mouse’ ~ Yeniseian: PY **saŋqa* ‘squirrel’ ~ PST **sreŋ(H)* ‘weasel, squirrel, mongoose,’ etc. (NCED 322, CSCG 21)⁴⁴
- Bur **mičil* / **bičil* ‘pomegranate’ ~ Caucasian: Chechen *hamc* ‘medlar’, Khinalug *mič* ‘apple’, etc. < PNC **šamcō* ~ Basque **mahaná* ‘grape’ (NCED 237, CSCG 267)
- Bur **čhap* ‘flesh, meat’ ~ Caucasian: Bezhta *šebo* ‘liver’, Chechen *žim* ‘kidney’, etc. < PNC **žawV* ~ Basque **šab-el* ‘belly’ ~ Yeniseian: PY **tVpVl-* ‘spleen’ (NCED 1106, CSCG 196)⁴⁵
- Bur **čhemil* ‘poison’ ~ Caucasian: Tsakhur *čřřima-n* ‘sour’, Khinalug *mič* ‘sour’, etc. < PNC **fmVjčwǎ* / **hčwVjmV* ~ Basque **šamin* ‘bitter, pungent, piquant; choleric’ (NCED 521, CSCG 93)
- Bur **čhađ-úm* ‘narrow’ ~ Caucasian: Akushi *čarŋa*, etc. (see above)
- Bur **čhağé-*: (Y) *čağé* ‘jackdaw’, (H) *čhağén* ‘crow with a red beak’ ~ Caucasian: Chechen *čēvag* = *čēgag* ‘magpie’, Lezgi *čav* = *čağ* ‘jackdaw, rook’, etc. < PEC **čām^{wā}* (NCED 381, CSCG 35)
- Bur **čhiš* ‘mountain’ ~ Caucasian: Chechen *čiz* ‘amulet (stone)’, Lak *čuča* ‘small stone’, etc. < PEC **čāčwV* ~ Basque **činča* ‘small stone, pebble’ ~ Yeniseian: PY **čizs* ‘stone’ (NCED 382, LDC 114, ToB)
- Bur **čhaš* ‘thorn’ ~ Caucasian: Akhwakh *žaza* ‘thorn, prick’, Ubykh *caca* ‘spit’, etc. < PNC **žāžē* ~ Basque **ša(r)ši* ‘bramble, thorn’ (NCED 1090, CSCG 248)⁴⁶
- Bur **žām* ‘distant relative’ ~ Caucasian: Tabasaran *žam* ‘bridegroom’, Ingush *zame* ‘best man’, Lak *mač:a* ‘kinsman’, etc. < PEC **žāmV* / **māžV* (NCED 1101, CSCG 251)
- Bur **žal-* / **žal-* ‘(long) hair’⁴⁷ ~ Caucasian: Godoberi *žali* ‘fringe, forelock’, Bezhta *žaro* ‘horse’s mane’, etc. < PEC **žāthī* (NCED 1101, CSCG 251)
- Bur **muž-óq* ‘fringe, bunch of hair (on cow’s tail)’ ~ Caucasian: Chechen *merz* ‘hair (in horse’s tail)’, Archi *močor* ‘beard’, etc. < PEC **mēčuri* (NCED 800, CSCG 150)
- Bur **žó-* ‘to come’⁴⁸ ~ Caucasian: Kabardian *-žə-* ‘(to move) back’, Avar *=ač-in-* ‘to come’, etc. < PNC **=ičwǎ* ~ Basque **e-uci* ‘to let, leave, permit’ (NCED 627, CSCG 101)

⁴³ (Y) *culá* ‘fertile billy-goat’, *culdár* ‘bull’, (H, N) *chulá* ‘billy-goat, drake’, *chindár* ‘bull’.

⁴⁴ This etymon exhibits a wide range of semantic variation, though all pertaining to rodents or mustelids. Within the Caucasian family the meanings include ‘weasel’, ‘marten’ and ‘mouse’. According to NCED (p. 322) Georgian *ciq’wi* ‘squirrel’ is a loanword from East Caucasian. In Basque the stem **šagu* or its variant **šat-* (prob. from **šag-t-*, with a fossilized oblique marker) is used for other animal names, such as **šagu-sahař* ‘bat’ (lit. ‘mouse-old’), **šat-hor* ‘mole’ (lit. ‘mouse-dog’), **šat-iču* ‘field-mouse’ (lit. ‘mouse-blind’).

⁴⁵ This etymology may not hold together in all its parts, because of phonological difficulties. See the note in CSCG (p. 196).

⁴⁶ This root, with two successive sibilant/affricates, has apparently been subject to various assimilations and dissimilations. Cf. also Spanish *zarza* ‘bramble, blackberry bush’ (OSp *sarça*), probably of Vasconic origin (the 17th c. Basque writer Oihenart had *çarci*: Trask 2008: 337).

⁴⁷ (Y) *jaláš* ‘hairy’, (H) *-jal* ‘strip (of cloth)’, *jaléi*, *jalii* ‘beard (of goat)’, (H, N) *jaláli-min* ‘long hair (of people)’.

⁴⁸ (Y) *jə-*, (H, N) *ju-* (with retroflex /j/).

(5) **The cluster /lt/, and the *t-* ~ *-lt-* alternation.** In the course of a thorough study of Bur phonology one becomes aware of the cluster /lt/ and the fact that in certain verbs as well as nouns there is a frequent alternation of initial dental stops /t-, th-/ with medial lateral-dental clusters /-lt-/. The dental stops occur in both noun and verb stems in word-initial position, while the lateral-dental clusters occur in the same stems when they occur after a prefix. For example, in Bur (H, N) *-ltúr* ‘horn’ is a bound morpheme and can only occur with a possessive prefix, such as *a-ltúr* ‘my horn’, *gu-ltúr* ‘thy horn’, while in the Yasin dialect ‘horn’ is simply *tur*, a free morpheme. The underlying form of all these is **-ltúr* ‘horn’ (thus Starostin, ToB). In a verb such as *turú-* ‘fall apart, disintegrate’ the cluster /lt/ appears in prefixed forms such as (absolutive or converb circumflex) *nultúr* ‘having fallen apart’ (with analogical variants *nutúr*, *nutúru*). The underlying root is thus **-ltúr-* ‘to fall apart’, etc. (Starostin, ToB).

It should be noted that Klimov & Édelman (1972; see also *Beiträge* p. 80, no. 10.9) formulated an ingenious hypothesis that several of the words discussed here, and others that denote paired nouns (**-ltúr* ‘horn’, **-ltúmal* ‘ear’, **-lten* ‘bone’, etc.) contain a prefix **-lt-* derived from the numeral ‘two’ (see below under Numerals). While we admit this solution is inventive, we think it is an example of the dangers of relying solely on internal reconstruction. For example, the existence of external cognates to Bur **-ltúr* ‘horn’, namely Avar *λ:ar* ‘horn’, Basque **adař* ‘horn’, and others (see below), would require that this prefixing of the numeral ‘two’ must have taken place already in Proto-Dene-Caucasian. Furthermore, the existence of other Bur words with initial (or underlying) **lt-*, and no semantic content of pairing, e.g. Bur **ltús* ‘grave’, **ltap* ‘leaf’,⁴⁹ and of words for paired body parts such as Bur **qVt-* ‘armpit’, *-qhúrpat* ~ *-xórpēt* (Y) ‘lung’, **-so[m]* ‘kidney’, **-sV̄sVn* ‘elbow’ (see above) that lack the supposed **-lt-* prefix, indicates to us that it is probably only fortuitous that some words with initial **lt-* denote paired objects.

The following examples show both the internal Burushaski alternation of the initial dental stop *t-* with the medial clusters *-lt-*, and the regular correspondence of both with Caucasian lateral affricates. In the following comparisons /*λ̥*/ denotes a voiceless lateral affricate = [tʃ], /*λ̥̤*/ denotes a glottalized lateral affricate = [tʃ̤], and /*λ*/ denotes a voiced lateral affricate = [dʃ]:

- Bur **-ltúr* ‘horn’ > (Y) *tur* / (H, N) *-ltúr* ‘horn’ (bound form) ~ PEC **λwřrV* ‘horn; braid, mane’ (Avar *λ:ar*, Chechen *kur*, etc.)⁵⁰ ~ Basque **adař* ‘horn’ (< **a-rdař*) (NCED 771, CSCG 134)
- Bur **-lten* > (Y) *ten* ‘bone’ / (H, N) *-ltn* ‘bone’ (bound form); (Y) *tanc*, (H, N) *-ltánc* ‘leg’ ~ PEC **λwVnʔV* ‘groin; part of leg’ (Avar *λ:an* ‘groin’, etc.) ~ PST **lən* ‘shin, ankle’ (NCED 785, CSCG 139–140)
- Bur **ltap* > (Y) *tap* ‘leaf’, (H, N) *tap* ‘petal, page’ / (Y) *du-ltápi-*, (H, N) *du-ltápu-* ‘to wither’ ~ PNC **λāpi* ‘leaf’ (Lak *čapi* ‘leaf’, etc.) ~ Basque **lapař* ‘bramble’⁵¹ ~ PY **jāpe* ‘leaf’ ~ PST **lāp* ‘leaf’ (NCED 774, CSCG 136)
- Bur **ltopo*, **(l)tultopo* > (H, N) *tópo*, *tultópo* ‘a kind of thin bread of leavened dough’ ~ PEC **HārĹāpV* (Tsez *Ĺepeli* ‘a pastry made of barley flour’, Lak *arč:ap* ‘a food made of barley flour, curds, butter, and rice’, etc.) (NCED 546, CSCG 63)
- Bur **-ltúr-* > (H, N) *turú-* / *nu-ltúr* / *-túr(u)*, (Y) *túr-*, *du-ltúr-* ‘to fall apart, disintegrate, be cut into pieces’, etc. ~ PEC **=ēλwV(l)* ‘to burst, tear’ (Hunzib =*uλ-*, etc.) ~ Basque **leheř* ‘to

⁴⁹ The underlying form **ltap* is indicated by the verb **du-ltápV-* ‘to wither’.

⁵⁰ In Avar (and Andian and Tsezian languages, and Archi) Proto-Caucasian lateral affricates are, by and large, preserved as such. In Nakh, Lak, Dargwa, Khinalug, and Lezgian languages (except Archi, which has velarized lateral affricates) lateral affricates have largely been replaced by lateral resonants, velars, or uvulars (NCED); cf. Catford (1977), Starostin (2005b). However, under certain conditions there are velar reflexes in the first group of languages as well.

⁵¹ For the semantics, cf. the IE etymology that includes Skt. *tṛṇa-* ‘grass, herb, straw’ and Eng. *thorn*, etc.

burst, smash’ ~ PY **ʔil* ‘to break, split’ ~ PST **rūt* ~ **ruat* ‘to demolish, ruin’ (NCED 413, CSCG 105)

- Bur **-ltá-* > (H,N) *tá-* / *-ltá-*, (Y) *tá-* ‘to follow,’ etc ~ PEC **=VmχV* ‘to go, come’ (Hunzib *=ēχ-* ‘to go, walk’, etc.) ~ Basque **urten* ‘to go out, leave’ (NCED 1026, CSCG 212)
- Bur **-ltál-* > (H, N) *-ltáli-*, (Y) *-ltáli-* ‘to wind, turn’, *tálen-* / *-ltálen-* ‘to go round’, etc.⁵² ~ PNC **χwīri* ~ **rīχwi* ‘wheel, vehicle’ > Chechen *lāra* ‘oval cradle runners; fan of the mill wheel’, Agul *fur* ‘wheel’, etc. ~ PST **r[ua]t* ‘round, roll, wheel’ (CSCG 134)
- Bur **ltul-* > (H, N) *-ltúl-*, (Y) *túl-* / *-ltúl-* ‘to saddle’, *tilihaŋ*, *teléhaŋ* ‘saddle’, (H, N) *tiliaŋ* id. ~ PEC **χwitē* ‘saddle’ (Avar *χ:ili*, Lak *kili*, etc.) (NCED 783, LDC 160, CSCG 139)⁵³
- Bur **-ltán-* > *tan-* (*tán-*) / *-ltán-* ‘to pound (objects)’ ~ PEC **=VχVw* ‘to beat, hit’ (Avar *χ:ab-* ‘to beat, hit; burst, shoot’, Andi *χ:a-hun*, *χ:a-ɬun* to burst, shoot’, etc.) ~ Basque **labur* ‘short’ (< **pounded down*) (NCED 1023, ToB)
- Bur **-lté-* > (Y) *té-* / *-lté-* ‘to swear’ / (H, N) *te-š* ‘oath’ ~ PEC **HiłV* ‘to say’ (Ingush *le-*, *al-* ‘to say’, Hunzib *iχ-* ‘to call’, etc.) ~ PY **ʔV(ʔ)l-* ‘to speak’ ~ PST **lǎ* ‘speak, speech’ (NCED 572, CSCG 70)
- Bur **-ltá-* > *tá-* / *-ltá-* ‘to put on (shoes, stockings)’ ~ PEC **=ōmłV* ‘to put on (trousers, shoes)’ (Andi *=iχ:in-* ‘to put on [shoes, footwear, trousers], etc.) (NCED 861, CSCG 130)

In the following examples the Burushaski initial dental stop *t-* corresponds with Proto-Caucasian lateral affricates:

- Bur. **(l)tam*⁵⁴ > (H, N) *tam dél-* ‘to swim, bathe, wash’ ~ PEC **χHwemV* ‘liquid’ (adj.) > Avar *χ:ami-ja-*, Archi *λ:ama-t:u-* id., etc. ~ Basque **limuri* ‘moist, humid; slippery’, etc. ~ PST **liam* ‘to soak’, etc. (CSCG 134)
- Bur **(l)tiš* > **tiš* ‘wind’ ~ PEC **χ[a]rčV* ‘movement of air’, etc. (see above)
- Bur **(l)tul* > (Y) *tul* ~ (H) *tol* ‘snake’ ~ PEC **wHōrχwVłV* ‘snake’⁵⁵ (Avar *boróx* ‘snake’, Lak *Vikhli bārčalu* ‘snail’) ~ PY **ʔurol* ‘leech’ ~ PST **rūt* ~ **rūt* ‘snake’ (NCED 1048, CSCG 218)
- Bur **(l)tal* > *tal* ‘palate; eyelid’⁵⁶ ~ PEC **HχalV* ‘mouth, jaw’ (Tindi *erχ:i* ‘jaw’, Tsakhur, Rutul *γal* ‘mouth’, etc.) ~ PY **jíl-* ‘gills’ (NCED 589, CSCG 75)
- Bur **(l)tal* > **tal* ‘dove’ ~ PEC **χeχē* (Avar *χ:iχ:i* ‘a kind of songbird’, Lezgi *kek* ‘cock’, etc.) (NCED 776, ToB)
- Bur **(l)tal* > (H) *tal* ‘belly, stomach’ ~ PEC **HlaχV* / **HχalV* ‘liver’ (Avar *ɬul*, Tindi *relaχ:*, Lak *t:ilik*, Lezgi *leq*, etc.) (NCED 586, CSCG 76)

⁵² With other derivatives: see Berger (1998).

⁵³ This comparison raises interesting questions about the spread of horsemanship and the saddle, implying that this was prior to the diaspora of the western Dene-Caucasian languages. If the split between Vasco-Caucasian and Burusho-Yeniseian took place about 10 kya (see below: Postscript), and domestication of horses only ca. 6 kya, with the saddle even later, it is difficult to reconcile genetic transmission of the word in both Caucasian and Bur. Another, probably likelier, possibility is that an equestrian culture bequeathed a word such as **χuli*, **tluli* ‘saddle’ to both Cauc and Bur separately, with subsequent usual developments in each language.

⁵⁴ The notation **(l)t-* means that the /l/ is only assumed from circumstantial evidence, since the correspondences are the same as in known Bur alternations of *t-* / *-lt-*.

⁵⁵ This appears to be an old compound. Only the second element is compared with Bur **tul*.

⁵⁶ “Skr. *tālu-* ‘palate’ [is] exactly matching Burushaski *tal* ‘palate’ — which is usually regarded as borrowed from Indian, but in fact also would be quite a regular reflex of [PDC] **HχalV*” (CSCG 75–76). The Sanskrit word, which has no clear Indo-European etymology, is thus probably one of the words adopted from Burushaski when Proto-Indic speakers entered the Indian subcontinent. See Witzel (1999).

- Bur **(l)tápi* > (H,N) *tápi* ‘stone terrace’ ~ PEC **χěp̄V̄* (Chechen *laba* ‘shed, peak of cap’, Avar *χeb* ‘stone’, etc.) ~ Basque **lape* ‘shelter under an eave’⁵⁷ ~ PST **t-lēp* ‘flat, tablet, etc.’ (NCED 777, LDC 32, CSCG 137)
- Bur **(l)tur* ‘cross-beam in door’ > (H) *tul*, (N) *tur* ~ PEC **χwārHV* (Tsez *χe* ‘bridge, stairs’, Tindi, Karata *χ:eru* ‘bridge’, etc.) (NCED 783, ToB)
- Bur **(l)tağ* > *tağ* (Y) ‘branch, shoot’ ~ PEC **χfwāχV* ‘stick, chip’ (see above)
- Bur **(l)tharén-* > (H, N) *tharén-um* ‘narrow’⁵⁸ ~ PNC **=iχ̣ilV* ‘thin’ (Avar *teréna-b*, Agul *ķille-f*, etc.) ~ Basque **lirain* ‘slender, svelte, lithe’ (NCED 639, CSCG 105)
- Bur **(l)tan-* > (H, N) *táno* ‘colon (lower bowel of animal)’, *táno*, *tanéelo* ‘bastard, of lowly birth’⁵⁹ ~ PNC **Hχ̣ōnū* ‘bottom’ (Avar *ṭinu* ‘bottom’, Archi, Lezgi *қан id.*, etc.) ~ PST **t-lāŋ* ‘floor’ (NCED 590, LDC 169)
- Bur **(l)talí* > (H) *talí* ‘slope (of a mountain)’ ~ PEC **χātū* ‘stone’ (Avar *ṭálu* ‘rock, rocky plateau’, Bezhta *χalo* ‘stone’, etc.) (NCED 773, CSCG 136)
- Bur **(l)téne* > (Y) *téne* ‘year before last’, (H, N) *tén-dili* ‘last year’ ~ PNC **Hχ̣w̄inV̄* ‘winter, year’ (Avar *χ:in* ‘winter’, Bezhta *χi* ‘year’, etc.) (NCED 591, CSCG 76)
- Bur **(l)tur-* > (Y) *tur-ćún*, (H, N) *tur-śún* ‘marmot’ ~ PNC **LārV* ~ **χārV* ‘hare’ (Ingush *lerg*, Karata *χ:an-ķala*, etc.) (NCED 788, ToB)
- Bur **(l)ter* > (H, N, Y) *ter* ‘summer pasture, mountain pasture’ (‘Hochweide, auf die das Vieh im Sommer getrieben wird’) ~ Avar *lol* ‘open enclosure (for sheep)’, Archi *χoli* ‘yard, place in front of the house’, etc. < PEC **LwēŋV* (NCED 791) ~ Basque **laře* ‘pasture, meadow’ ~ PST **rāl* ‘fence, framework’ (CVST II: 56, no. 204)
- Bur **(l)tar-* > (H, N, Y) *tar-ínj* ‘skin bag’ ~ PNC **Lōli* ‘color, skin’ (Avar *χ:er* ‘color’, Dargwa **k:uli* ‘(sheep)skin’, etc.) ~ Basque **lařu* ‘skin, leather’ (NCED 789, CSCG 130)

This development of initial **lt-* > *t-* in Bur partially converges with that in one Caucasian language, Avar (specifically northern Avar: see NCED, pp. 52, 102), where the glottalized affricate PNC/PEC **χ*, **χw* yields *ṭ* (glottalized dental stop). (The fuller forms of the following comparisons are found above.):⁶⁰

- Bur **táno* ‘colon (of animal), bastard’ ~ Avar *ṭinu* ‘bottom’ < PNC **Hχ̣ōnū*
- Bur **talí* ‘slope (of a mountain)’ ~ Avar *ṭálu* ‘rock, rocky plateau’ < PEC **χātū*
- Bur **tápi* ‘stone terrace’ ~ Avar (dial.) *ṭeb* ‘millstone, whetstone’ < PEC **χěp̄V̄*
- Bur **tal* ‘belly, stomach’ ~ Avar *ṭul* ‘liver’ < PEC **Hχ̣alV*
- Bur **tharén-um* ‘narrow’ ~ Avar *teréna-b* ‘thin’ < PNC **=iχ̣ilV*

Hermann Berger, the authority on Bur, ventured some Basque-Burushaski lexical comparisons in his early works (Berger 1956, 1959). In his last published work (Beiträge: 2008), Berger acknowledged this early interest, and reckoned that a relationship between Bur and other non-Indo-European remnant languages was thinkable but not demonstrable.⁶¹ Nevertheless, Berger (1959, p. 26, note 34) discovered the correspondence of Basque initial **l-* = Bur

⁵⁷ ‘refugio bajo el alero de un tejado / abri sous un avant-toit’ (Azkue).

⁵⁸ Aspirated /th/ is probably due to pretonal syllabic position. Note the similar *-n-* extension in Bur, Avar, and Basque.

⁵⁹ S. A. Starostin preferred to compare this Bur word instead with PNC **lanā* ‘bottom’ (CSCG 131).

⁶⁰ But not the tense affricates **χ̣*, **χ̣w*, which remain in Avar as *χ̣:* (or velarize to *ķ:* under certain conditions; see NCED pp. 52–54).

⁶¹ “... eine Beziehung zum Baskischen und anderen nicht-indoarischen Restsprachen [ist] zwar denkbar, aber bei dem heutigen Entwicklungsstadium dieser Sprachen nicht mehr zu beweisen ist” (Beiträge, p. 1).

initial **t(h)-*, which we consider valid (as developments of DC lateral affricates), based on the following examples:

- Bur **tápi* ‘stone terrace’ ~ Basque **lape* ‘shelter under eaves’⁶²
- Bur **ter* ‘summer pasture’ ~ Basque **laře* ‘pasture, meadow’
- Bur **tar-ín* ‘skin bag’ ~ Basque **laŗu* ‘skin, leather’
- Bur **tap* ‘leaf; petal, page’ (< **ltap*) ~ Basque **lapaŗ* ‘bramble’
- Bur **tam dél-* ‘to bathe’, etc. ~ Basque **limuri* ‘moist, humid; slippery’
- Bur (H, N) *turú-*, (Y) *túr-* ‘to fall apart’, etc. (< **-ltúr-*) ~ Basque **leheŗ* ‘to burst, smash’
- Bur **(l)tharén-* ‘narrow’ ~ Basque **lirain* ‘slender, svelte, lithe’

The following examples (in addition to several above) confirm the correspondence of Burushaski medial *-lt-* with Caucasian lateral affricates. The reflex *-lj-* = [lʒ] occurs in a few words, apparently from **lti*, **ltja-*:

- Bur **díltar* ‘buttermilk’⁶³ ~ PNC **rĥǎλwǎ* ‘milk’ (Tsez *riλ* ‘butter’, Avar *rax* ‘milk’, etc.) (NCED 949, LDC 153, CSCG 183)
- Bur **(y)alt-* > (H, N) *giyált* ‘spoon, scoop’⁶⁴ ~ PEC **jǎ[l]λwV* ‘wooden shovel’ (Lezgi *jirf*, Bezhta *āko*, etc.) ~ Basque **śafarde* ‘pitchfork; dinner fork; rake’⁶⁵ ~ PST **jok* ‘scoop, ladle’ (NCED 673, CSCG 113)
- Bur **yult* > (H, N) *yult* ‘time, (right) moment’⁶⁶ ~ PNC **λǎjV* ‘time, day’ (Akhwakh *λa-li-ge* ‘in the daytime’, že-*λa* ‘today’, etc.) ~ Basque **ordu* ‘time, hour, occasion’ (NCED 766, CSCG 133)
- Bur **yáltar* > (H,N) *yáltar* ‘upper leafy branches of a tree, crown of a tree’, etc.⁶⁷ ~ PEC **ĥǎλVIV* (Avar *ĥarλ:él* ‘branch, bough’, Tsez *aλiru* ‘pod’, etc.) ~ Basque **adaŗ* ‘branch’ (< **ardaŗ*)⁶⁸ (CSCG 91)⁶⁹
- Bur **-ltáltar-* > (H) *-ltáltar*, (N) *táltar* ‘foreleg (of a quadruped), shoulder (of horse), ‘human arm’ (sometimes)⁷⁰ ~ PNC **HluλĚ* ~ **λulHV* ‘arm’ (Avar *ruλ:* ‘arm, shoulder’, Archi *λ:ol* ‘shoulder-blade, foreleg (of animal)’, etc.) ~ PST **t-lǔH* / **t-lǔ-k* (?) ‘hand, arm, wing’ (NCED 588, CSCG 138)
- Bur **maltás* ‘butter’ ~ PEC **nhěλV* (Chechen *nalχa* ‘butter’, Archi *naλ:* ‘milk’, etc.) (NCED 849, CSCG 146)

⁶² See the complete DC etymology (CSCG 137) for semantic developments: original meaning probably something like ‘flat slab of stone’. Chechen and Ingush also have the meaning ‘shed’, possibly originally a crude outbuilding with roff made of stone slabs.

⁶³ Bur initial *d-* ~ Caucasian **r* is the regular initial reflex: see CSCP, p. 41.

⁶⁴ Bur *giyált* appears to be a compound of the verb *giy-* ‘pour’, etc. + *-yált* or *-ált*.

⁶⁵ The Basque word appears to be an old compound: **śa-* + **farde* (with obscure first element).

⁶⁶ In stem-final position we would expect **yul* (see below). In this case there was probably a variation between **yul* (in absolute final position) vs. **yult-* (preceding inflectional suffixes), with analogical leveling to the latter.

⁶⁷ Cf. also (H,N,Y) *galtár* ‘small twig’, (H,N) *giltír* ‘pod, husk (of peas, beans, etc.)’.

⁶⁸ In Basque this word has merged phonetically with **adaŗ* ‘horn’ (see above).

⁶⁹ The correspondence of Bur **y-* = **j-* ~ PNC initial **ĥ-* is recurrent: cf. Bur **yaŗ-is* ‘head’ ~ PEC **ĥwōmdV* ‘brain, head’ (below).

⁷⁰ (Y) ‘projecting breasts’ (‘hervorstehende Brüste’).

- Bur **harált* ‘rain, rain cloud’⁷¹ ~ PEC **rě̃nχwǂ* ~ **rǎ̃nχwǂ* ‘cloud, fog’ (Chechen *doχk* ‘fog’, Khinalug *unḱ* ‘cloud’, etc.)⁷² ~ Basque **lanbro* ‘fog, mist, drizzle’⁷³ ~ PST **rē̃η* ‘drop, rain’ (NCED 947, CSCG 179)
- Bur **alt-* ‘two’, **w-ált-* ‘four’ ~ PWC **p(:)əχə* ‘four’ (Ubykh *p̄χə*, etc.)⁷⁴ ~ PST **P-lij* ‘four’ ~ Basque **lau-* ‘four’ (NCED 314, CSCG 212)
- Bur **baltí* ‘front room of house, veranda’ ~ PEC **bũlχV* ‘house’ (Hunzib *buχi* ‘at home’, Lak *burča-lu* ‘threshold’, Hurrian *purli* ‘house’, etc.) ~ Basque **borda* ‘cottage, cabin, stable’ (NCED 312, LDC 158, CSCG 15)
- Bur **-ltV-r* ‘to show’ > (Y) *’-ltar-*, *’-ltir-*, (H, N) *’-ltir-* ~ PEC **ʔiǂV* ‘to look’ (Chamalal *χ:i-d*, Tabasaran *lig-*, etc.) ~ PY **ʔV(?)l-* ~ **ʔV(?)r₁-* > Kott. *η-āl-iga* ‘I know’ ~ PST **t-lǎ(H)* ‘to see, look’ (NCED 209, CSCG 255)
- Bur **múltur* > (H,N) *-múltur* ‘nostril’ ~ PEC **wě̃nχV* (Batsbi *marλə* ‘nose’, Bezhta *moχlo* ‘beak’, etc.) ~ Basque **mutur̄* ‘snout, muzzle; end, edge’ < **murtu-r̄* ~ PST **lũH* ‘head’ (NCED 1041, CSCG 216)
- Bur **qhVltá* ‘sack, pocket’ ~ < PEC **GHĩrχwV* (see above)
- Bur **-hált-* ‘to wash’ > (Y) (ba)-*hált-*, (H, N) *-alt-/ -yalt-* ~ PEC **=VχVn* ‘to wash, pour, weep’ (Chechen =*ēlχ-* ‘to weep; to pour (of rain)’, Archi e=*χ:in-* ‘to make an ablution’, etc.) ~ PST **t-lē̃η* ~ **t-lā̃η* ‘to wash, clean’ (NCED 1023, CSCG 212)
- Bur **dalt-* > (N) *daltán-* ‘to thresh’⁷⁵ ~ PEC **=V̄-rǂV* < **rVǂV* ‘to thresh’ (Batsbi *arl-*, Bezhta =*ol-*, etc.; Andi *loli* ‘threshing; threshing floor; Archi *χorom* ‘threshing board’, etc.) ~ Basque **lařain* ‘threshing floor’ (NCED 1031, CSCG 182)
- Bur **-wél̄ji* ‘dream’ > (Y) *-wél̄ji*, (H,N) *-úl̄ji* ~ PNC **fiemχǂ* ‘dream’ (Dargwa *hanḱ* ‘sleep’, Karata *hanχu* ‘fog, cloud’, etc.) ~ Basque **lainho* ‘cloud, mist, fog’⁷⁶ (NCED 512, CSCG 93)
- Bur **-l̄ji* ‘behind, backwards’⁷⁷ ~ PEC **χi* ‘below, down’ (Bezhta *χi-* ‘down, below’, Lak *luw* id., etc.) (NCED 778)
- Bur **-wél̄ji* ‘womb, afterbirth’ ~ PEC **rVHVnχwǂ* / **HVrVnχwǂ* ‘some internal organ’: Tindi *reχ:a-(χ:a riχ:i)* ‘diaphragm’, Rutul *nixrā* ‘placenta’, etc. (NCED 955, ToB)
- Bur **hul̄z-* > (Y) *hul̄já-* ‘to ride (a horse)’ ~ PEC **ʔiǂV* ‘to run, leap’ (Avar *χ:ú-r-d-* ‘to dance’, Rutul *hi=iga-* ‘to drive, urge’, etc.) ~ PST **t-lǎj(H)* ‘to run, gallop’ (NCED 209, CSCG 256)

The Burushaski reflex of all lateral affricates in stem-final position is simply /l/:⁷⁸

- Bur **-yal-* ‘to hear’ ~ PNC **=eχu* ‘to hear’: Andi *anχi-* ‘to hear’, Budukh *ix-* id., etc. (NCED 411, CSCG 46)
- Bur **w-él-* / **b-él-* ‘to put on (clothes)’ ~ PEC **=VχV* ‘to put clothes (on the upper body)’: Chamalal, Tindi =*al-*, Khwarshi *š-iχ-*, etc. ~ PY **ʔalVη* ‘trousers’ (NCED 1024, CSCG 212)
- Bur **bal-*, **-wál-* 1 ‘place between the shoulders’, 2 ‘back of the shoulders, upper part of the back’, 3 ‘back’ > (H) *bálbal* 1, *bál-giçin* 2, *-wáldas* 3, (N) *bálbal* 1, *bál-giçan* 2, *-wáldas* 3, (Y)

⁷¹ Initial **ha-* may be influenced by *hará-* ‘to urinate’. In stem-final position we would expect **(ha)rál* (see below). See the note to **yult*, above.

⁷² PEC **χ* is reconstructed on the basis of circumstantial evidence.

⁷³ The Basque word requires a metathesized protoform such as **χǎ̃nwrǂ*.

⁷⁴ This is probably related to PEC **bũnǂe* ‘eight’ (Avar *miχ:-go*, Hunzib *beχ-no*, etc.).

⁷⁵ Bur initial *d-* < **r-*: cf. Bur **diltar* ‘buttermilk’, above.

⁷⁶ “Andian languages demonstrate a non-trivial semantic development ‘dream’ > “vision’ > ‘cloud’” (NCED). Likewise in Basque.

⁷⁷ Starostin (ToB) prefers to compare Bur **-l̄ji* with PNC **HI[a]χǂV* ‘breast, back’, etc.

⁷⁸ Apparent exceptions are probably the result of analogical leveling. (See the notes to **yult* and **harált*, above.)

wáldes 3 ~ PNC **bũǰV* ‘upper part of the body’ (Batsbi *bali* ‘shoulders’, Adyge, Kabardian *ǰǰa* ‘upper part of the back’, etc.) ~ Basque **śor-balda* ‘shoulder’ < **śor-barda* (NCED 313, LDC 32, CSCG 158)

- Bur *-*híl* ‘lip, edge, shore’ ~ PEC **HǎǰwV* (~-ě-, -ǐ-) ‘forehead’ > Chechen *ħaž*, Tindi *haǰ:a*, etc.)⁷⁹ (NCED 543, CSCG 84)
- Bur **bal* ‘marrow, brain, kernel (of walnut)’ ~ PEC **bñǰǰV* ‘(large) intestines’ > Bezhta *baǰa* ‘large intestine’, Udi *buq:un* ‘belly’, etc.) ~ Basque **barda* / **marda* ‘belly, abdomen, bowels, tripe, stomach, rennet’ ~ PY **piǰí* ‘intestine(s)’ ~ PST **bik* ‘bowels’ (NCED 297, CSCG 13)
- Bur **el-* > (Y) *él-den* ‘year before year before last’ (*den* ‘year’) ~ PEC **?VǰwV* ‘last year’ (Avar dial. *uǰi-sa*, Tsez, Hinukh *eǰi*, Bezhta *iǰe*, etc.) ~ Basque **urte* ‘year’ (NCED 225, CSCG 259)
- Bur **bél-is* ‘ewe that has already given birth’ ~ PNC **bħǰǰwǐ* ‘small cattle’ (Bezhta, Hunzib *biǰ* ‘sheep’, Andi *belir* ‘deer’, etc.) ~ Basque **bil-doć* ‘lamb (that has begun to feed itself)’ (NCED 293, CSCG 12)
- Bur *(*l*)*tal* > *tal* ‘dove’ ~ PEC **ǰeǰē* (Avar *ǰ:iǰ:i* ‘songbird’, etc.) (see above)
- Bur *-*úil* ‘belly, abdomen’ ~ PEC **=ǐr(a)ǰV* ‘stomach; rennet, abomasum’ (Karata *m-eǰ:u* ‘stomach’, Hunzib *b-eǰ* ‘rennet, abomasum’, etc.) ~ Basque **urdail* ‘stomach, abomasum, womb’ ~ PST **t-lǰw* ‘belly, stomach’ (NCED 670, CSCG 112)

One might have noted that in some forms above (**harált* ‘rain, rain cloud’, **-hált-* ‘to wash’) Burushaski has /lt/ in what appears to be final position, an apparent contradiction to the rule just cited. The restoration of /lt/ in these cases can be attributed to analogy, based on inflected forms such as *haráltiǰ* ‘rainfall, rainclouds’. Likewise in the case of Bur **bél-is* ‘ewe’ (see above) the development of **ǰ* > stem-final /l/ had already taken place before the addition of *-is* (a frequent Bur suffix).

For more details on DC lateral affricates and their reflexes, see Bengtson (2008a: 59–61).

Typological parallels of the change TL > LT: If we symbolize the postulated change of DC lateral affricates to Bur /lt/ (reduced in initial position to /t/ and in final position to /l/) as TL > LT, some typological parallels support the probability of this type of phonological change. The clearest and most familiar may be the change seen in Spanish:

- Lat. *spatula* > OSp. *espadla* ~ *espalda* > MSp. *espalda* ‘back’
- Lat. *capitulu* > OSp. *cabidlo* ~ *cabildo* > MSp. *cabildo* ‘town council’
- Lat. *foliatile* > OSp. *hojadle* ~ *hojaldre* > MSp. *hojaldre* ‘puff pastry’
- Lat. *titulu* > (Catalan) *title* > OSp. *tidle* ~ *tilde* > MSp. *tilde* ‘written accent’

In Old Spanish the /dl/ and /ld/ forms coexisted, while in the modern language the /ld/ forms have prevailed. In Judeo-Spanish the change has been extended to include imperative plural + clitic constructions (Bradley 2006: 80):

- JSp. *traeldo* = MSp. *traedlo* ‘bring it’ < Late Latin *tra(h)ete + illu*
- JSp. *tomalda* = MSp. *tomadla* ‘take it’
- JSp. *daldo* = MSp. *dadlo* ‘give it’

⁷⁹ For semantics, cf. Hunzib *bil* ‘lip’, Tindi *bala* ‘edge, end, corner’, Lezgi *p:el* ‘forehead’, etc.; Basque **beta-ř* ‘forehead’.

In English a parallel can be seen in the popular name *Sheltie* for Shetland pony or Shetland sheepdog. In recent American English *chipotle*, the name for a dried chili pepper derived (through Mexican Spanish) from Nahuatl, is frequently pronounced /čip'olti/.⁸⁰

It is interesting to note the derivation of Spanish *alcalde* 'judge' < Arabic *al-qāḍī* 'the judge' (Corominas 1990: 38), in which the Spanish cluster /ld/ substitutes for the Arabic "emphatic" *ḍ* (which in turn comes from the Semitic lateral sibilant *š).

In Tibetan and other Bodic languages of the Sino-Tibetan family PST **t-l-* may yield /lt/, /ld/, or /lč/, for example:

- Tib *lto* 'belly, stomach' < PST **t-ləw* id. ~ PEC **=īr(a)l̥V*, Bur **-úl*, Basque **urdaíl*, etc. (see above)
- Tib *lte* 'navel, center' < PST **t-lāj* 'center, middle' ~ PNC **=ǝǝĚ* 'middle, half', Basque **erdi* id., PY **ʔaʔl* 'half' (CSCG 46)
- Tib *lta* 'look' < PST **t-lə(H)* 'to see, look' ~ PEC **ʔil̥V* 'to look', Bur **-ltV-r-* 'to show', etc. (see above)
- Tib *ltag* 'nape, back part of the neck' < PST **t-luak* 'back' ~ PEC **ǝarq̄wě* 'forehead; cap', Basque **lok-* 'temple; middle of forehead' (NCED 775, ToB)
- Tib *ldeb* 'leaf, sheet' < PST **(t)-lāp* 'leaf' ~ Burushaski **ltap-* 'leaf; to wither', PNC **ǝāpi* 'leaf', Basque **lapaṛ* 'bramble', PY **jāpe* 'leaf' (see above)
- Tib *ldeb-s* 'side' < PST **t-ləp* 'border, side' (ToB) ~ (? Basque **lepo* 'neck')
- Tib *lčag* 'rod, stick' < PST **t-ləḱ* 'stake, stick' ~ Bur **ltaḱ* 'branch, shoot', Avar *ǝ:ox*: 'stubble', etc. (see above)
- Tib *lčag-s* 'iron; lock' < PST **t-l[ia]k* 'iron' (ToB) ~ Bur **ltik* > *tik* 'earth, ground; rust'

The difference from Basque and Burushaski is that Bodic has the metathesized cluster only *initially*, not *medially*, as in the other languages. Since Burushaski is spoken in an area immediately adjacent to the Bodic dialects (Balti and Purik, archaic Bodic dialects, are spoken directly east of the Burushaski area), it is possible that at some time in the past, both families had lateral affricates, and that the change of **TL* > /lt/ (etc.) was an areal phenomenon that affected Burushaski and Bodic, but not more distant Sino-Tibetan languages (such as Lushai, which frequently has /tl/ or /thl/ < PST **t-l-*).

Morphology

Nouns

In the Burushaski nominal system the case endings, as admitted by Č himself, are the same for both singular and plural. Bur therefore has an agglutinating morphology, not the inflected morphology typical of IE. We find the Bur case endings far more compatible with those of Basque and Caucasian, including the compound case endings found in all three families (Bengtson 2008a: 90–92).

Furthermore, though it is not mentioned by Č, many (about 150) of the most basic nouns are bound forms, *i.e.*, they cannot occur without a pronominal prefix (for example, Bur (H, N) *-ltúr* 'horn' manifests as *a-ltúr* 'my horn', *gu-ltúr* 'thy horn', *i-ltúr* 'his horn', *mu-ltúr* 'her horn', etc.). Toporov (1971) pointed out these remarkable parallels between Bur and Yeniseian:

⁸⁰ *Chipotle* is also the name of a restaurant chain. Evidence of the metathesis *chipotle* ~ *chipolte* can easily be found with an internet search of *chipolte*.

	‘my hand’	‘thy hand’
Burushaski (H, N)	<i>a-ríiŋ</i>	<i>gu-ríiŋ</i>
Yeniseian (Ket)	<i>ab-ílaŋ</i>	<i>ug-ílaŋ</i>

Table 5

These prefixes can be reconstructed to something like **aŋa-* ‘my’ / **uxGu-* ‘thy’ (see the PDC pronoun stems, below), and the word ‘hand’ itself is reconstructed as **řVŋHV* (by Starostin: ToB). This type of construction is totally alien to IE patterns, as is the enormous number of different plural suffixes: about 70, as noted by Č (p. 23). So is the multiple class system of Bur, which is far more similar to class systems in Caucasian and Yeniseian than to gender in PIE.

Table 6. Burushaski noun classes⁸¹

Class type	human		non-human	
	human-male	human-female	non-human animate (animals, countable objects)	inanimate (uncountable objects, mass nouns, abstractions)
Class letter (Lorimer)	hm	hf	x	y
Class number	I	II	III	IV
Examples (Hunza-Nager)	<i>hir</i> ‘man’ <i>’-uy</i> ‘father’ <i>qhudáa</i> ‘God’	<i>gus</i> ‘woman’ <i>dasín</i> ‘girl’ <i>parí</i> ‘fairy’	<i>hağúr</i> ‘horse’ <i>báalt</i> ‘apple’ <i>’-l-ćín</i> ‘eye’	<i>phu</i> ‘fire’ <i>ge</i> ‘snow’ <i>ćhap</i> ‘flesh’

Table 7. East Caucasian noun classes

Class type	human		non-human	
	human-male	human-female	non-human animate	inanimate
Class number	I	II	III	IV
Examples (Lak)	<i>ćuw</i> ‘man’ <i>p:u</i> ‘father’ <i>ars</i> ‘son’	<i>š:ar</i> ‘wife’ <i>c:us:a</i> ‘female’ <i>nínu</i> ‘mother’	<i>ću</i> ‘horse’ <i>ćimus</i> ‘onion’ <i>ja</i> ‘eye’	<i>c’u</i> ‘fire’ <i>š:in</i> ‘water’ <i>dik</i> ‘flesh’

Bouda (1949); Catford (1977: 298–299).

Personal Pronouns

It is perhaps the personal pronouns that show most clearly the deep incompatibility of Bur and IE. IE, as is well known, is typified by the first and second-person pronouns **H₁eĝ(H)-* ‘I’ / **(e)me-* ‘me’ and **te-*, **towe-*, **tuH_x-* = **tū-* ‘thou, thee’. In Bur (Berger 1998: I, p. 80) the scheme is entirely different.

⁸¹ “The difference between class III and IV nouns is not as straightforward as [implied in the table.] Many class IV nouns are countable (and take class-specific plural endings), e.g. HN *-ríiŋ* ‘hand’, *-úsis* ‘foot’, *-ltúmal* ‘ear’, *-akín* ‘liver’, *ha* ‘house’, *tom* ‘tree’, *jamé* ‘bow (made of horn)’, while some abstract nouns are class III, e.g. *ćuťi* ‘leisure, holiday’, *rupiá* ‘money’, *ćilá* ‘the coldest period of the year’, *hariip* ‘melody’. Yet there is, of course, this strong tendency that objects and materials (incl. artifacts made from such materials) lacking a clearly defined or stable physical form are class IV. So ‘trees’ are IV, but their ‘fruits’ are III.” (B. Tikkanen, pc.).

Table 8. Burushaski Personal pronouns

Person	1 sg.			2 sg.			1 pl.			2 pl.		
	dir.	g.-e.	v.p.	dir.	g.-e.	v.p.	dir.	g.-e.	v.p.	dir.	g.-e.	v.p.
Hunza & Nagir	<i>je</i>	<i>jáa</i>	<i>áa-</i>	<i>un</i> <i>uŋ</i> N <i>um</i>		<i>gu-</i> <i>gú-</i> <i>gó(o)-</i> <i>-kó(o)-</i>	<i>mi</i>	<i>míi</i> <i>mée</i>	<i>mi-</i> <i>mí-</i> <i>mé(e)-</i>	<i>ma</i>		<i>ma-</i> <i>má-</i> <i>máa-</i>
Yasin	<i>ja</i>			<i>un</i>		<i>gu-</i> <i>gú-</i> <i>gó(o)-</i> <i>-kó(o)-</i>	<i>mi</i>			<i>ma</i>		<i>ma-</i> <i>má-</i>

Berger (1998); dir. = direct, g.-e. = genitive-ergative, v.p. = verbal prefix.

Here we see that the Bur system is suppletive, with different stems for direct forms and oblique forms, in both first and second person. Č (p. 72) attempts to connect Bur *je*, *já* with PIE $*H_1e\hat{g}(H)-$ but he can do so only by violating the sound correspondence discussed above (PIE $*\hat{g}$, $*\hat{g}^h =$ Bur *g*, *g*!) He further tries to connect Bur *un* (~ *um*, *uŋ*) with PIE $*tuH_xom$, emphatic form of $*tuH_x = *tū-$, but again only by requiring another unprecedented change: $t > d > 0$!

For comparison, below we present the attested forms of personal pronouns in the Indo-Iranian languages that surround Burushaski:⁸² see tables 9 & 10.

Table 9. Personal pronouns in Nuristani & Dardic

Person	1 sg.		2 sg.		1 pl.		2 pl.	
	direct	oblique	direct	oblique	direct	oblique	direct	oblique
Kati	<i>vuze</i> , <i>ōnc</i>	<i>ĩa</i> , <i>ye</i>	<i>t'u</i>	<i>to</i> , <i>tu</i>	<i>ema</i> , <i>imā</i> , <i>yimo</i>		<i>ša</i> , <i>šo</i>	
Waigali	<i>aŋa</i>	<i>ũ</i>	<i>tũ</i>	<i>tū</i>	<i>amī</i>	<i>amē</i>	<i>wī</i>	<i>wā</i>
Aškun	<i>ai</i>	<i>yũ</i>	<i>tu</i>	<i>ō</i>	<i>ima</i>		<i>wī</i>	<i>yā</i>
Prasun	<i>unzū</i>	<i>āndeiš</i>	<i>i/üyū</i>	<i>üt'öiš</i>	<i>asē</i>		<i>mīū</i>	
Dameli	<i>ai</i>	<i>mū</i> , <i>mo</i>	<i>tu</i>	<i>tō</i>	<i>ai</i>	<i>amā</i>	<i>bi</i>	<i>myā</i>
Gawar	<i>a</i>	<i>mō</i>	<i>tu</i>	<i>tō</i>	<i>amō</i> , <i>ama-</i>		<i>mē</i>	
Wotapuri	<i>au</i>	<i>ma-</i>	<i>tu</i>	<i>ta</i> , <i>tha-</i>	<i>mū</i> , <i>mun</i>		<i>thū</i>	
Šumašti	<i>ā</i>	<i>mō</i>	<i>tu</i>	<i>tō</i>	<i>ābə</i>	<i>ama</i>	<i>wī</i>	<i>ima</i>
Pašai	<i>a</i>	<i>ma-</i>	<i>tə</i> , <i>tō</i>	<i>tō</i> , <i>tē-</i>	<i>hama</i>		<i>(h)ēmā</i> , <i>mōmā</i> , <i>myā</i>	
Tirahi	<i>au</i> , <i>ao</i>	<i>mē</i>	<i>tu</i> , <i>to</i>	<i>te</i> , <i>tē</i>	<i>ao</i> , <i>mā</i>	<i>mēn</i>	<i>tao</i>	<i>tā</i>
Kalaša	<i>ā</i>	<i>mai</i>	<i>tu</i> / <i>tū</i>	<i>tai</i>	<i>ābi</i>	<i>hōma/i</i>	<i>ābi</i>	<i>mīmi/e</i>
Khowar	<i>awá</i>	<i>ma</i>	<i>tu</i>	<i>ta</i>	<i>ispá</i>		<i>pisá</i>	
Torwali	<i>ā</i> , <i>ai</i>	<i>mě</i> , <i>mă</i>	<i>tu</i>	<i>ta</i>	<i>mo</i> , <i>moi</i>	<i>mo</i> , <i>ma-</i>	<i>tō</i> , <i>thō</i>	<i>to</i> , <i>ta-</i>
Baškarik	<i>ya</i>	<i>ma-</i>	<i>tu</i>	<i>tha-</i>	<i>ma</i>		<i>tha</i>	
Garwi	<i>yah</i>	<i>mā-</i>	<i>tu</i>	<i>ta-</i>	<i>mā</i>		<i>ta-</i>	

⁸² Thanks to E. Bashir for some corrections of Khowar forms.

Person	1 sg.		2 sg.		1 pl.		2 pl.	
	direct	oblique	direct	oblique	direct	oblique	direct	oblique
Maiyan	<i>mã</i>	<i>mẽ</i>	<i>tũ</i>	<i>tẽ</i>	<i>bẽ</i>	<i>zã</i>	<i>tus</i>	<i>sã</i>
Kanyawali	<i>ma</i>	<i>mĩ, mĩ</i>	<i>tu</i>	<i>tĩ, tĩ</i>	<i>be</i>	<i>zã</i>	<i>tus</i>	<i>cã</i>
Phalura	<i>ma</i>		<i>tu</i>		<i>be</i>	<i>as-</i>	<i>tus</i>	
Šina	<i>ma(h)</i>	<i>mã</i>	<i>tu(h)</i>	<i>thã, tũ</i>	<i>bẽ</i>	<i>ãs-</i>	<i>tsho, co</i>	
Kašmiri	<i>ba(h)</i>	<i>m'e</i>	<i>cũ(h)</i>	<i>c'e</i>	<i>as'</i>	<i>as'e</i>	<i>tʷah'</i>	<i>tʷah'e</i>
Vedic	<i>ahám</i>	a. <i>mā(m)</i>	<i>tuvám</i>	a. <i>tvā(m)</i>	a. <i>asmán</i> , d. <i>asmábhyam</i>		a. <i>va</i> , g. <i>yušmākam</i>	

Édelman (1978, 289); a. = accusative, d. = dative, g. = genitive.

Table 10. Personal pronouns in Pamir languages

Person	1 sg.		2 sg.		1 pl.		2 pl.	
	direct	oblique	direct	oblique	direct	oblique	direct	oblique
Yidgha	<i>zo, zə</i>	<i>mən, mun</i>	<i>tu, tə</i>	<i>tu/ə/ola</i>	<i>max, mox</i>		<i>maf, mof</i>	
Munjan	<i>zã, zə</i>	<i>mən, mun</i>	<i>tu, tə</i>	<i>to/ã/ə/aw</i>	<i>mox</i>		<i>mõf</i>	
Šughni	<i>wuz</i>	<i>mu</i>	<i>tu</i>		<i>mãš</i>		<i>tama</i>	
Rušan	<i>az</i>	<i>mu</i>	<i>tu</i>	<i>tã</i>	<i>mãš</i>		<i>tama</i>	
Khuf	<i>waz</i>	<i>mu</i>	<i>tu</i>	<i>taw, tã</i>	<i>maš</i>		<i>tama</i>	
Bartangi	<i>ãz</i>	<i>mun, mu</i>	<i>tũ</i>	<i>ta</i>	<i>mãš</i>		<i>tamãš</i>	
Orošor	<i>waz</i>	<i>mun, mu</i>	<i>tu</i>	<i>tã</i>	<i>mãš</i>		<i>tamãš</i>	
Sarykoli	<i>waz</i>	<i>my, myn</i>	<i>tɛw</i>	<i>ta, ty</i>	<i>maš</i>		<i>tamaš</i>	
Iškašim	<i>az(i)</i>	<i>mak</i>	<i>tĩ</i>	<i>fak</i>	<i>mĩx(ó)</i>	<i>mĩč'v(o)</i>	<i>tĩmĩx</i>	<i>tĩmĩx(řv)</i>
Yazghulam	<i>az</i>	<i>mũn, mon</i>	<i>tow</i>	<i>tu, ti-</i>	<i>mox</i>			
Wakhi	<i>(w)uz, wəz</i>	<i>maž</i>	<i>tu</i>	<i>taw, tow</i>	<i>sak</i>	<i>səpó</i>	<i>sá(y)išť</i>	<i>sav</i>
Avestan	<i>azəm</i>	g. <i>mānā</i>	<i>tuuəm, tũ</i>	g. <i>tauuā</i>	g. <i>ahmākam</i> OPers. g. <i>amāxam</i>		g. <i>yūšmākam</i>	

Efimov & Édelman (1978, 218); g. = genitive.

In spite of some formally similar forms in the contemporary languages, e. g. Yidgha *mox*, Munjan *max*, Iškašim *mĩx* ‘we’, *vis-à-vis* Bur *mi* id., deeper comparison shows that they have quite separate origins. Thanks to the archaic Indo-Iranian literary languages, Avestan, Old Persian and Vedic OI, we can project the Indo-Iranian forms into the past and derive them from the stem **asmā-*, from PIE **ns-mé-*. Bur *mi*, on the other hand, maybe comes from PDC **mi(nV)* ‘self, (our)self’, according to Starostin (CSCG 146: cf. ST: Lushai *mi* ‘me, us, my, our’, etc.).

We propose that comparison of the Bur personal pronouns with those of East Caucasian (and other DC languages) is more fruitful as well as more straightforward than comparison with IE. Both Burushaski and the reconstructed Proto-(North) Caucasian have *suppletive* pronoun stems in the first and second person singular. For the present purpose, let us compare Bur with two East Caucasian languages, Khinalug and Tsakhur. Khinalug is the highest

(2300 m. = 7546 ft.) and most remote village in Azerbaijan, where the inhabitants still speak a Caucasian language.⁸³ Tsakhur is also spoken in Azerbaijan as well as in Dagestan. Both languages appear to have preserved remnants of old eastern Dagestania suppletive paradigms: see table 11.

Table 11. Personal pronouns in Eastern Dagestania languages

		direct	genitive	dative
1 st person sg.	Khinalug	<i>zi</i> (nom.) <i>jä</i> (erg.)	<i>i, e</i>	<i>as</i>
	Tsakhur	<i>zu</i>	<i>jiz-in</i>	<i>za-</i>
2 nd person sg.	Khinalug	<i>wi</i> (nom.) <i>wa</i> (erg.)	<i>wi</i>	<i>oχ</i>
	Tsakhur ⁸⁴	<i>wu ~ ku (= ġu)</i>	<i>j-iB- (= j-iġ-)</i>	<i>wa-</i>

According to Nikolayev and Starostin (NCED, pp. 402, 483–84, 855, 1014–15, 1084–85), the original Proto-Caucasian pronominal paradigms were very complicated, and difficult to reconstruct with much certainty. In the first person singular West Caucasian and most East Caucasian languages have forms going back to PNC **direct** *zō(-n), **ergative** *ʔez(V), **genitive** *ʔiz(V), **oblique** *zā-, though Lak and Dargwa have instead a first person stem *nĭ (cf. Basque *ni ‘I’, PST *ηā- ‘I, we’, etc.). In the second person singular PEC had a “complicated suppletive paradigm” consisting of **direct** *uō(-n) / *ɸwV̄ = *ġwV̄, **ergative** *ʔōɸwV = *ʔōġwV, **genitive** *ʔeuV̄ / *ʔiuV̄, and **dative** *dū.

Clearly a great deal of rearrangement has taken place in all of these languages since the original paradigms of thousands of years ago. West Caucasian abandoned most of the suppletive stems and kept only *sa ‘I’ (= *zō) and *wa ‘thou’ (= *uō). One East Caucasian language, Dargwa (Akushi and Urakhi dialects) has retained the stems *nĭ and *ɸwV̄ = *ġwV̄, resulting in a paradigm coinciding with that of Basque:⁸⁵

	‘I’	‘thou’
Dargwa (Akushi, Urakhi)	<i>nu</i>	<i>ħu</i>
Basque	<i>ni</i>	<i>hi</i>

Table 12

We can then summarize the genesis of the Burushaski first and second person singular pronouns as follows: see table 13.

Interrogative Pronouns

As stated correctly by Č (p. 74), Bur interrogative pronouns are built on bases containing the labials /m/ and /b/: *me- ‘who’ and *be ‘what’, and he also quite correctly recognizes the Bur tendency to waver between /m/ and /b/. Č connects the Bur interrogatives with the rare IE in-

⁸³ <http://www.xinaliq.com/>; <http://www.eki.ee/books/redbook/khinalugs.shtml>.

⁸⁴ Note that Tsakhur exhibits free variation between the two old second person stems: *wu* < *uō vs. *ġu* < *ɸwV̄.

⁸⁵ Note that some Dargwa dialects have instead retained the PEC stem *zō as *du* ‘I’.

Table 13

	Proto-Burushaski	Proposed cognates	Proto-Dene-Caucasian ⁸⁶
1 st pers. sg. direct	* <i>ʒa</i>	Khinalug <i>zi</i> Tsakhur <i>zu</i> Chechen <i>so</i> PWC * <i>sa</i> Yen. * <i>ʒaʒ</i>	* <i>zV</i>
1 st pers. sg. oblique	* <i>a-</i> (< * <i>ŋa-</i>) ⁸⁷	Dargwa <i>nu</i> Basque * <i>ni</i> Kott * <i>ŋ-/ŋ</i> ⁸⁸	* <i>ŋV</i>
2 nd pers. sg. direct	* <i>u-n</i>	Archi <i>un</i> Khinalug <i>wi</i> Tsakhur <i>wu</i> (~ <i>ǵu</i>) PWC * <i>wa</i> Yen. * <i>ʒaw / ʒu</i>	* <i>wV</i>
2 nd pers. sg. oblique	* <i>gu-</i> / * <i>go-</i>	Tsakhur <i>ǵu</i> (~ <i>wu</i>) Chechen <i>ho</i> Dargwa <i>hu</i> Basque * <i>hi</i> Yen. * <i>kV-/ʔVk-</i>	* <i>xGwV</i>

terrogative stem **me/o-*, attested only in Anatolian, Tocharian, and Celtic. We must point out, however, that the **mV-* interrogative is much more richly attested in DC than in IE, and furthermore the *m* ~ *b* alternation is attested in DC, but not in IE:

- Caucasian: PEC **mV-* > Chechen *mi-la* ‘who’, *mi-ča* ‘where’, *ma-ca* ‘when’ etc.; Andi *emi-* ‘who’, Chamalal *im* id., Tind. *ima-la* ‘who’; Lezgi, Agul *mu-s* ‘when’ / Archi *ba-sa* ‘when’
- Basque: *ba-* conditional prefix, ‘if-’ (Trask 1997: 225)⁸⁹
- Sino-Tibetan: PST **mV-* > Karen **mV* ‘what’, Serdukpen *mu* id., Bodo **ma?* id., Ao Naga **mV* id., Sichuan **mV* id. (ToB) / PST **Pa* ‘what, which’ > Burmese *ba* ‘what, which’, Jingpo *pha*¹ ‘what’, Bodo *bə* ‘which one’ (CSCG I: 92)

⁸⁶ S.A. Starostin (ToB, 2004–2005a, 2004–2005b).

⁸⁷ Loss of initial PDC **ŋ* in Bur (or replacement with /h/) is regular, per Starostin (CSCP 48).

⁸⁸ According to Starostin, Ket *b-/ʔab-* belongs here; but the development **b* < **m* < **ŋ* (CSCP 48) does not agree with the rules established by him earlier (Starostin 1982), while the Kott data agree excellently:

~*âliga* < *ŋâliga* ‘ich Weiss’ = *‘mein Wissen’

~*aiteän* (*ŋaiteän*) ‘ich will’ = *‘mein Wunsch’

~*apeaŋ* < *ŋapeaŋ* ‘in; hinein’ < *‘mein Inneres’

~*ani* < *ŋani* ‘mein Schwiegersohn’ : Ket *εń* ‘Schwiegersohn’

~*âma* < *ŋâma* ‘mein Mutter’

~*ôp* < *ŋôp* ‘mein Vater’.

See W. Werner, *Vgl. Wörterbuch der Jenissej-Sprachen*, Bd. 2, Wiesbaden 2002, 29–30, who has collected the Kott examples from Castrén 1858. Concerning Ket *ab-* ‘my’, Arin *b(i)-*, Kott *m-inšo*, and Ket & Yugh 1st person sg. verbal exponent *ba-/bo-*, a promising cognate appears in Hurrian *-iffu-/iffə-/iffē-* ‘my’, pl. *-iff=až* ‘our’; and in the ergative suffix of the 1st person *-aw*, e.g. *tād=aw* ‘I love [it]’ (see Gernot Wilhelm, „Hurrian,” In: *The Cambridge Encyclopedia of the World’s Ancient Languages*, ed. by Roger D. Woodard, Cambridge: University Press 2004, 107, 112).

⁸⁹ For semantic development, cf. Old Irish *ma* ‘whether, if’ < PIE interrogative stem **me/o-*, cited by Čašule (p. 74); German *wenn* ‘if’ < ‘when’; Czech *či* ‘ob’, Polish *czy* ‘ob’ < PIE interrogative stem **k^wei-*, etc.

- Yeniseian: PY **wi-* / **we-* ‘interrogative pronoun’⁹⁰ > Ket *biśéŋ* / *biśaŋ* (< *biśa:ŋ*³) ‘where’, *biśśe* ‘who’ (masc.), *bε-śa* ‘who’ (fem.), *bi-l̥a*^{5,6} ‘how’, *bi-l̥és* / *bil̥ás* ‘whither’; Kott *bi-li* ‘where’, *bil̥thuŋ* ‘whither’, *bil̥čaŋ* ‘whence’, *bi-l̥aŋ* ‘which’, etc.

Verb

In the verb the Bur variance from IE is just as pronounced as in the noun. The “typological similarity” claimed by Č (p. 75) is only in regard to vaguely similar systems of aspects and tenses, without any material parallels pointing to common genetic origin. The verbal endings (Č, pp. 75–77) are similar only in that both Bur and IE have endings containing *n* and *m*, though there are no real correspondences between them. Most striking is the existence of the Bur template verbal morphology with as many as four prefix positions preceding the verb stem.

Table 14. Burushaski verb template

prefix position	–4	–3	–2	–1	0	+1	+2	+3	+4	+5	+6
function	NEG	D	PRON	CAUS	VERB	PL.SBJ.	DUR	1sgSBJ	AP/ NON-FIN/ MODAL	SBJ	Q
	negative marker	subject version	pronominal prefix (person/class)	causivity/valence	verb stem	plural marker					

Tikkanen 1995, Berger 1998, Anderson, ms.

It is well known that Proto-IE had few verbal prefixes.⁹¹ The Bur prefixal template is far more compatible with languages such as those of the Yeniseian family, especially the well-documented verbal morphology of Ket, and of the extinct Kott; Basque, Caucasian (especially West Caucasian), and Na-Dene also seem to preserve distinctive features (multiple noun classes, polysynthesis, extensive verbal prefixing of pronominal and valence-changing grammemes) of the postulated Dene-Caucasian proto-language: see, e.g. Bengtson (2008a, 2010a, 2010b), G. Starostin (2010a).

Numerals

Č (p. 75) makes some ingenious Burushaski-IE comparisons of the numerals ‘one’, ‘two’ (actually Bur ‘two’ + IE **H₂al-* ‘other’), ‘eight’, and ‘nine’. Before commenting on these attempts, let us first provide some background information on the complete numeral systems of Bur and its IE neighbors:

⁹⁰ Yeniseian **w-* is the regular reflex of PDC **m-* (CSCP 35).

⁹¹ Concerning verbal prefixes in IE, the situation is rather complex. Most of the historically attested IE languages use prefixes, which represent the prepositions, sometimes “frozen,” as in Hittite. The verbal augment is another example, different from usual prefixes. Its existence is attested in Indo-Iranian, Armenian, Greek. E. Hamp (1997, 127) tried to demonstrate that it is not excluded that it was known in other languages too, e.g. in the Latin form *enos* ‘we’ instead of *nos* in the *Carmen Arvale*. This means that this “prefix” would be free and not dependent only on the verb. There could also be some old prefixes of the type “*s*-mobile” in Indo-European, maybe corresponding with the Afroasiatic *s*-causative.

Table 15. **Burushaski numerals**

Dial. \ Num.	1	2	3	4	5
Hunza & Nagir	<i>hin</i> <i>han</i> <i>hik</i>	<i>altó</i> <i>altác</i> <i>altá(n)</i>	<i>iské(n)</i> <i>uskó</i> <i>iskí</i>	<i>wáľto</i> <i>wáľti</i>	<i>čhundó</i> <i>čhindi</i>
Yasin	<i>hen</i> <i>han</i> <i>hek</i>	<i>altó</i> <i>altác</i> <i>altá(n)</i>	<i>iské</i> <i>iskó</i> <i>iskí</i>	<i>wáľtu/</i> <i>wáľte</i>	<i>čéndó</i> <i>čindó, -i</i>
Comments	H 18: <i>hun</i>			<i>w</i> + * <i>alt</i> - 2	

Dial. \ Num.	6	7	8	9	10
Hunza & Nagir	<i>mišindo</i> <i>mišindi</i> <i>ma°</i>	<i>thaló</i> <i>thalé</i>	<i>altámbo</i> <i>altám̄bi</i>	<i>hunćó</i> <i>huntí</i>	<i>tóorumo</i> <i>tóorimi</i>
Yasin	<i>bićindu</i> <i>bišinde</i>	<i>thaló</i> <i>thalé</i>	<i>altám̄bu</i> <i>altám̄be</i>	<i>hućó</i> <i>hutí</i>	<i>tórum</i>
Comments	<i>-miš</i> , pl. <i>-mianć</i> Y <i>-meš</i> , pl. <i>-mac</i> 'finger' + '5'	maybe cf. Khaling <i>tár</i> 7 (Hd 361)	* <i>altan</i> <i>be</i> 2 without	* <i>hun</i> - 1 minus * <i>Cu</i> 10? or from Y <i>-cu-</i> 'take away' (Bl 328)	<i>toórum</i> Y. <i>taúrum</i> so many; cf. Khaling <i>tađham</i> 10 (Hd 361)

Dial. \ Num.	10	20	30	40	50
Hunza & Nagir	<i>tóorumo</i>	<i>áľtar</i> N <i>áľthar</i>	<i>áľtar-tóorumo</i> /- <i>tóorimi</i>	<i>altó-áľtar</i> N <i>-áľthar</i>	<i>altó-áľtar</i> <i>tóorumo</i>
Yasin	<i>tórum</i>	<i>áľtar</i>			
Comments		< * <i>alt</i> - + * <i>tarum</i> - (B 16)	20 + 10	2 × 20	(2 × 20) + 10

Dial. \ Num.	60	70	80	90	100
Hunza & Nagir	<i>iskí-áľtar</i>	<i>iskí-áľtar</i> <i>tóorumo</i>	<i>wáľti-áľtar</i>	<i>wáľti-áľtar</i> <i>tóorumo</i>	<i>tha</i>
Yasin	<i>iskí-áľtar</i>		<i>walte-áľtar</i>		<i>tha</i>
Comments	3 × 20	(3 × 20) + 10	4 × 20	(4 × 20) + 10	

Berger 1998.

Table 16. Nuristani & Dardic numerals

Language	1	2	3	4	5	6	7	8	9	10
Kati	<i>ev</i>	<i>d'u</i>	<i>tre</i>	<i>št(ə)vo</i>	<i>puč</i>	<i>šo, řu</i>	<i>sut</i>	<i>ořt, uřt</i>	<i>noh, nu</i>	<i>duc</i>
Waigali	<i>ew, ěk</i>	<i>dū</i>	<i>trē</i>	<i>čatā</i>	<i>pūč, puč</i>	<i>řū</i>	<i>sōt</i>	<i>ōřt</i>	<i>nū</i>	<i>dōř</i>
Ařkun	<i>ač</i>	<i>dō, du</i>	<i>trā, tre</i>	<i>catā</i>	<i>pōnč, ponc</i>	<i>řū, řdu</i>	<i>sūt</i>	<i>ōřt</i>	<i>nō, nū</i>	<i>dus</i>
Prasun	<i>i/upün</i>	<i>lū</i>	<i>cři, čī</i>	<i>č'pū</i>	<i>wuču</i>	<i>wuřu</i>	<i>sētē</i>	<i>āstē</i>	<i>nū, nūyū</i>	<i>lāzē</i>
Dameli	<i>ek</i>	<i>dū</i>	<i>trā</i>	<i>čōr</i>	<i>pāč</i>	<i>řo</i>	<i>sat</i>	<i>ařt</i>	<i>nō</i>	<i>dař</i>
Gawar	<i>yak, yɔk</i>	<i>dū</i>	<i>lē/ε</i>	<i>cūr</i>	<i>pō(n)c</i>	<i>ř^uō, ř^oō^u</i>	<i>sot, sat</i>	<i>ōřt</i>	<i>nū</i>	<i>dōř, dař</i>
Wotapuri	<i>yek, yaka</i>	<i>dū</i>	<i>tā, lā</i>	<i>c/sawūr</i>	<i>panz/c</i>	<i>řō, řē</i>	<i>sat, sātə</i>	<i>ař, āřə</i>	<i>nau</i>	<i>dař(ə)</i>
řumařti	<i>yäk</i>	<i>dū</i>	<i>lyē, līē</i>	<i>cōyur</i>	<i>pōn</i>	<i>řōo</i>	<i>sat, sət</i>	<i>āřt</i>	<i>nī</i>	<i>dās</i>
Pařai	<i>ī</i>	<i>dō</i>	<i>trā, l^oē</i>	<i>čār, cōr</i>	<i>panj</i>	<i>řə</i>	<i>sat</i>	<i>ařt</i>	<i>nō</i>	<i>dē</i>
Tirahi	<i>ek</i>	<i>dō</i>	<i>tre</i>	<i>cawor</i>	<i>panc</i>	<i>xo</i>	<i>sat</i>	<i>axt</i>	<i>nab</i>	<i>dah</i>
Kalařa	<i>ek</i>	<i>dū</i>	<i>tre</i>	<i>čau</i>	<i>pōn, pānř</i>	<i>řo</i>	<i>sat</i>	<i>ařt</i>	<i>nō</i>	<i>dař</i>
Khowar	<i>ī</i>	<i>řū</i>	<i>troi</i>	<i>čōr</i>	<i>pōnř</i>	<i>čhoi</i>	<i>sot</i>	<i>ořt</i>	<i>nēoh</i>	<i>řoř</i>
Torwali	<i>e(k), ē</i>	<i>du, dū, do</i>	<i>ča, ča</i>	<i>čau</i>	<i>panj</i>	<i>řō, řo</i>	<i>sat</i>	<i>ař</i>	<i>nōm</i>	<i>dař</i>
Bařkarik	<i>ak</i>	<i>dū</i>	<i>tā</i>	<i>čōr</i>	<i>panj</i>	<i>řo</i>	<i>sat</i>	<i>ařt</i>	<i>num</i>	<i>dař</i>
Maiyan	<i>ak</i>	<i>dū</i>	<i>čā</i>	<i>saur</i>	<i>pānz</i>	<i>řōh</i>	<i>sāt</i>	<i>āřt</i>	<i>num</i>	<i>dař</i>
Kanyawali	<i>ek</i>	<i>dū</i>	<i>čā</i>	<i>cōur</i>	<i>pās</i>	<i>řō</i>	<i>sāt</i>	<i>āřt</i>	<i>nau</i>	<i>dāř</i>
Phalura	<i>āk</i>	<i>dū</i>	<i>trō</i>	<i>čūr</i>	<i>pānz</i>	<i>řo^h</i>	<i>sāt</i>	<i>āřt</i>	<i>nū</i>	<i>dāř</i>
řina	<i>ěk</i>	<i>du</i>	<i>če</i>	<i>čar</i>	<i>poī</i>	<i>řa</i>	<i>sāt</i>	<i>āř</i>	<i>naū</i>	<i>daī</i>
Kařmiri	<i>akh</i>	<i>zū(h)</i>	<i>tr'ū(h)</i>	<i>cōr</i>	<i>pānc</i>	<i>řah</i>	<i>sath</i>	<i>āřt</i>	<i>naw</i>	<i>da(h)</i>

Table 16 (cont.)

Language	20	30	40	50	60	70	80	90	100	1000
Kati	<i>vici, vəcə</i>	<i>vica-duc</i>	<i>d'u-vəcə</i>	<i>d'u vəcə-duc</i>	<i>trə vəcə</i>				<i>puč vəcə</i>	
Waigali	<i>wiši</i>	<i>wiši-dōši</i>	<i>du-wiši</i>	<i>du-wišie-dōši</i>	<i>trēw(i)ši</i>		<i>čattā-wiši</i>		<i>pūč-wiši</i>	
Aškun	<i>wiši</i>	<i>wiši-ā-dus</i>	<i>dō-wiši</i>	<i>duišā-dōs</i>	<i>tré-wiši</i>	<i>tréwiši-dōs</i>	<i>catā-biši, čattō-iši</i>	<i>catā-wiši-dōs</i>	<i>punc-wiši</i>	
Prasun	<i>ɜū, zū</i>	<i>lɜʒä(i)ž</i>	<i>lyogɜu</i>	<i>lejebiz</i>	<i>ščogɜu</i>		<i>čpagɜu</i>		<i>wučεgɜu</i>	
Dameli	<i>biši</i>	<i>bišio-daš</i>	<i>dū-biši</i>						<i>pāž-biši</i>	
Gawar	<i>iši</i>	<i>iši-o-dōš</i>	<i>du-iši</i>		<i>lē-iši</i>		<i>cūr-iši</i>		<i>pāinši</i>	
Wotapuri	<i>biš(ə)</i>	<i>biš-ō-daš</i>	<i>dū-biš</i>	<i>dū-biš-ō-daš</i>	<i>ṭā-biš</i>		<i>caur-biš</i>		<i>panɜ-biš</i>	
Šumašti	<i>isi</i>	<i>isi-dās</i>	<i>dū-isi</i>		<i>lyē-isi</i>		<i>cōur-isi</i>		<i>pōn-isi</i>	
Pašai	<i>wəst</i>	<i>wəst-ō-dāi trīw</i>	<i>du-wya</i>	<i>du-wya-u-dāi</i>	<i>trā-wya, lē-wya</i>		<i>čār-wiya</i>	<i>čār-wéa-dē</i>	<i>panɟawia</i>	
Tirahi	<i>biau, byeh</i>	<i>biau-dah</i>	<i>do-bē</i>	<i>do-biau-dah</i>					<i>panz-bē</i>	
Kalaša	<i>biši</i>	<i>biši-je-daš</i>	<i>dū-biši</i>	<i>dū-biši-je-daš</i>	<i>tre-biši(r)</i>	<i>trebiši-daš</i>	<i>čau-biši(r)</i>	<i>čaubiši-daš</i>	<i>poñ-biši</i>	
Khowar	<i>bišr</i>	<i>bišr-još</i>	<i>ju-bišr</i>	<i>ju-biširo-če-još</i>	<i>troi-išir</i>	<i>troibišir o-če-još</i>	<i>čōr-bišr</i>	<i>čōrbiširo -če-još</i>	<i>pōñ-bišr, šōr</i>	
Torwali	<i>biš</i>	<i>daš-ō-biš</i>	<i>dū-biš</i>	<i>daš-ō-dū-biš</i>	<i>ča-biš</i>		<i>čo-biš</i>		<i>panɟ-biš, soh</i>	
Baškarik	<i>biš</i>	<i>daš-ō-biš</i>	<i>dū-biš</i>	<i>daš-ō-dū-biš</i>	<i>ṭha-biš</i>		<i>čōr-biš</i>		<i>panɟ-biš</i>	
Maiyan	<i>biš</i>	<i>daš-ō-biš</i>	<i>dū-biš</i>	<i>daš-ō-dū-biš</i>	<i>ča-biš</i>		<i>saur-biš</i>		<i>šal</i>	
Kanyawali	<i>biš</i>		<i>dū-biš</i>		<i>ča-biš</i>		<i>cōur-biš</i>		<i>šal</i>	
Phalura	<i>bhiš</i>	<i>bhiš-e-dāš</i>	<i>du-bhiša</i>		<i>trō-bhiša</i>		<i>čūr-bhiša</i>		<i>pāñ-bhiša</i>	
Šina	<i>bi(h)</i>	<i>bi-ga-daī</i>	<i>dībyo</i>	<i>dībyo-ga-daī</i>	<i>čēbyo</i>	<i>čēbyo-ga-dai</i>	<i>čarbyo</i>	<i>čarbyo-ga-dai</i>	<i>šāl</i>	<i>sās, sās</i>
Kašmiri	<i>wuh</i>	<i>trūh</i>	<i>catūjūh</i>	<i>pancāh</i>	<i>šəṭh</i>	<i>satat</i>	<i>šūth</i>	<i>namat</i>	<i>hath</i>	<i>sās, sōs^u</i>

Édelman 1978, 285–87.

Table 17. Numerals of the Pamir languages

Language	1	2	3	4	5	6	7	8	9	10
Yidgha	<i>yū</i>	<i>lo^h</i>	<i>ǰ^uroi</i>	<i>čšir</i>	<i>pāns, ^onǰ</i>	<i>úxšo</i>	<i>ávdó</i>	<i>áščó</i>	<i>nōu</i>	<i>los</i>
Munjan	<i>yū</i>	<i>lu</i>	<i>ǰⁱroi</i>	<i>čfūr</i>	<i>ponž</i>	<i>óxšo</i>	<i>óvdó</i>	<i>ošk^{yo}</i>	<i>nau</i>	<i>da</i>
Šughni	<i>yīw, yi</i>	<i>du, diyūn</i>	<i>aráy</i>	<i>cavōr</i>	<i>pīnǰ</i>	<i>xōǰ</i>	<i>(w)ūvd</i>	<i>waǰt</i>	<i>nōw</i>	<i>δīs</i>
Rušan/Khuf	<i>yīw, yi</i>	<i>daw</i>	<i>aráy</i>	<i>cavūr</i>	<i>pīnǰ</i>	<i>xūw</i>	<i>(w)ūvd</i>	<i>waǰt</i>	<i>nāw/nōw</i>	<i>dos</i>
Bartang	<i>yīw, yi</i>	<i>daw</i>	<i>aráy</i>	<i>cavōr</i>	<i>pīnǰ</i>	<i>xōw</i>	<i>ūvd</i>	<i>waǰt</i>	<i>nāw</i>	<i>δus</i>
Sarykoli	<i>iw, i</i>	<i>δεw, da</i>	<i>aroy</i>	<i>cavūr</i>	<i>pinǰ</i>	<i>xel</i>	<i>ıvd</i>	<i>woǰt</i>	<i>new</i>	<i>des</i>
Yazghulam	<i>wū(g)</i>	<i>dow</i>	<i>cūy</i>	<i>čer</i>	<i>penǰ</i>	<i>ǰu</i>	<i>ıvd</i>	<i>uǰt</i>	<i>nu(w)</i>	<i>δūs</i>
Iškašim	<i>uk, ũk</i>	<i>db(w)</i>	<i>rū(y)</i>	<i>cbfūr</i>	<i>pūnǰ</i>	<i>xūl(l)</i>	<i>ıvd</i>	<i>ot</i>	<i>naw, nu</i>	<i>dI dūst</i>
Wakhi	<i>yi(w)</i>	<i>bu(y)</i>	<i>tru(y)</i>	<i>cbıbır</i>	<i>panǰ</i>	<i>šaδ</i>	<i>ıb</i>	<i>at</i>	<i>naw</i>	<i>δas</i>

Language	20	30	40	50	60	70	80	90	100	1000
Yidgha	<i>wısto</i>				<i>ǰ^uroiwıst</i>				<i>pānǰwıst</i>	
Munjan	<i>bıst < Pers.</i>									
Šughni	<i>du δīs</i>	<i>ara δīs</i>	<i>cavōr δīs</i>	<i>pīnǰ δīs</i>	<i>xōǰδīs</i>				<i>δīs δīs</i>	<i>azo-r</i>
Rušan/Khuf	<i>daw dos</i>	<i>aray dos</i>	<i>cavūr dos</i>	<i>pīnǰ dos</i>	<i>xūw dos</i>				<i>dos dos-uk</i>	<i>hazo-r</i>
Bartang	<i>daw dus</i>	<i>arāy dus</i>	<i>cavōr dus čil</i>	<i>pīnǰ dus</i>	<i>xōw dus</i>				<i>dus dus-ak</i>	<i>azōr</i>
Sarykoli										
Yazghulam	<i>wast</i>	<i>wast-a δūs</i>	<i>dow wast</i>	<i>dow wast-a δūs</i>	<i>cūy wast</i>	<i>cūywást -at δūs</i>	<i>čer wast</i>	<i>čer wást-at δūs</i>	<i>penǰ bıst</i>	<i>(h)azór</i>
Iškašim	<i>bıst, Sang dbwıšt</i>									
Wakhi	<i>wıst / bıst < Tajik</i>	<i>bıst-at das</i>	<i>bu-bıst</i>	<i>bu-bıst-at-das</i>	<i>truy-bıst</i>	<i>tru-bıst-ə(t) das</i>	<i>cbıbır bıst</i>	<i>cbıbır bıst-ə(t) das</i>	<i>panǰ-bıst das-das sad < Š.</i>	

Payne 1989, 435; Efimov & Edel'man 1978, 226–28.

The first serious analysis of the Burushaski numerals was proposed by Tomaschek (1880, 823–24). He recognized the role of the numeral ‘2’ in ‘4’ and ‘8’,⁹² and the vigesimal character of the higher numerals ‘30’, ‘40’, ‘50’, ‘60’, ‘70’, ‘80’, ‘90’. Also remarkable are his external comparisons, *Cu ‘10’ (extracted from ‘9’) with Yeniseian (PY *tuʔ-η; Starostin 1995, 289) and Ti-

⁹² Let us mention that an even stricter binary system appears in Haida, one of the Na-Dene languages: see Blažek (1999: 327).

betan *bću* (PST *[šh]Vj; CVST IV, 144–45), and *tóorumo* ‘10’ with (Sino-Tibetan) Khaling *taḍham*, *taṛ am* ‘10’. It seems very probable that a Burushic substratum is responsible for the existence of vigesimal systems in the Nuristani and Dardic and Pamir languages (Lorimer 1937: 83), rarely also in Pašto (*dwah-šilah* ‘40’, *dre-šilah* ‘60’, *tsalōr-šilah* ‘80’), Balučī (*dō-gīst* ‘20’, *sī-gīst* ‘60’, *čyār-gīst* ‘80’), and Asiatic Romani (*turru-m-wist* ‘60’, *turru-m-wist-das* ‘70’)⁹³ — see Tomaschek (1880: 826) — much as the vigesimal systems in Ossetic and Georgian are likely due to Caucasian substratum, and those of Romance and Celtic due to the Basque/Aquitanian substratum.⁹⁴

Now as to Č’s proposed material correspondences between Bur and IE numerals: the first, comparing PIE **H₁oi-no-s* ‘one’ with Bur *hen* / *hin* (class I, II) ~ *han* (class II, IV) ~ *hek* / *hik* (counting form) ‘one’ is almost plausible, except that the form **H₁oi-no-s* is characteristic of western IE (Italic, Celtic, Germanic, Balto-Slavic), while forms with different suffixes **H₁oi-ko-s* and **H₁oi-uo-s* gave rise to the Indic and Iranian words for ‘one’ shown above. The late Sergei Starostin derived Bur **he-* ‘one’ from Proto-DC **HVcǎ* / **cHǎ* ‘one’, a root that produced the word for ‘one’ in all DC languages (except Basque):⁹⁵ Caucasian: PNC **cHǎ* (Chechen *čha?*, Khwarshi *has*, Ubykh *za*, etc.), Yeniseian: PY **χu-sa*, and Sino-Tibetan: PST **ʔit* (Old Chinese **ʔit*, Burmese *ać*, etc.). The phonetic development in Bur is regular, as also seen in the word for ‘fox’, e.g.:⁹⁶

- Bur **he-* ‘one’: Chechen *čha?* ‘one’ < PNC **cHǎ*
- Bur **hal* ‘fox’⁹⁷: Chechen *chōgal* ‘fox’ < Proto-Nakh **chōkal* < PNC *chwōlV-ḳV*

For Bur **alto* ‘two’ Č suggests comparison with IE **H₂al-* ‘other’ + ordinal suffix **-to-*, in spite of the fact that this is not an ordinal but a cardinal number, and that the “suffix” *-to-* appears nowhere else in the Bur numerals. As we have shown above, Bur /lt/ is a distinctive cluster that can be traced back to PDC lateral affricates, and thus we prefer the comparison of Bur **alto* ‘2’ (and **w-alt-* ‘4’, **altamb-* ‘8’, and **altar* ‘20’) with PDC **=VnŁe*, whose other reflexes include PWC **p(:)ǎłǎ* ‘4’, PEC **būnŁe* ‘8’ (Chechen *barh*, Avar *míł:-go*, Lezgi *müžü-d*, etc.), Basque **lau* ‘4’, and PST **(p-)lij* ‘4’ (Tibetan *bzi*, Burmese *lijh*, Kaling *‘bhäl*, etc.). Note that only Bur retains this stem for 2, 2², 2³, 2×10, while Basque, West Caucasian, and Sino-Tibetan use it only for 2², and East Caucasian only for 2³, and that several of the languages cited have a labial prefix before the stem:

Bur	<i>*w-alt-</i>	2 ²
PEC	<i>*būnŁe</i>	2 ³
PWC	<i>*p(:)ǎłǎ</i>	2 ²
PST	<i>*(p-)lij</i>	2 ²

Table 18

⁹³ Berger (1959) detailed Burushaski influences on Romani. E. Bashir (pc.) adds that the vigesimal system is also found in Panjabi.

⁹⁴ Blažek (1999: 333–334) discusses in more detail the vigesimal systems in various IE languages and their probable origins from DC substrata.

⁹⁵ S. A. Starostin suggested derivation of Basque *bat* ‘one’ from the PDC root **=iłV* ‘to cut, divide, break’, with a fossilized class prefix as in Avar *b-ułá* ‘part’, Lak *b-ału-l* ‘separate’, and Dargwa Chirag *b-ił-a-l* ‘part’ (NCED 660–661).

⁹⁶ According to Starostin (CSCP 60–67) the PDC initial sibilant-laryngeal clusters **cH-*, **ʒH-*, **šH-* regularly yield Bur **h-*.

⁹⁷ There is a certain resemblance to Indo-Aryan words for ‘jackal, fox’: Skt. *śṛgālā-* > Hindi *siyāl*, *siyār*, *sāl*, ‘jackal’, Oriya *siyāla*, *siaḷa*, etc. (CDIAL 729), though Berger (1998 III: 186) makes no reference to this as a source of Bur *hal*.

Next, Č attempts to derive Bur *altámbo* ‘8’ from PIE **oktō(u)* ‘8’, “with a change of *ak > al* under the influence of the Bur numerals for 2 and 4” (p. 75). In view of the holistic relationship of the Bur words for 2, 2², and 2³, as shown above, it seems highly unlikely to us that all the other IE lower numerals would be discarded and only ‘8’ retained, with this odd change.

Finally Č (p. 75) tries to connect Bur *huntí* ‘9’ with PIE **H₁neun̥* ‘9’, “with dissimilation,” presumably to eliminate the first nasal. However, the non-counting forms contain sibilant affricates: (H, N) *hunćó*, (Y) *hućó*, and we saw (above) Tomaschek’s hypothesis of ‘one’ (*hun-*) away from ‘ten’ (*-ćó*, *-ćó*). Besides Yeniseian **tuʔ-* ‘10’ and Sino-Tibetan **[ʒh]Vj* ‘10’, Starostin and Nikolayev (NCED 245) have posited PNC **ʔənçĚ* ‘10’ (Andi *hoço-go*, Lezgi *çu-d*, Abkhaz *ža-bá*, etc.), and some have suggested that a cognate element **-ci* is found in the Basque numerals **sor-ci* ‘8’ and **bedera-ci* ‘9’ (thus 10 – 2, 10 – 1, respectively), though this latter hypothesis has been criticized by Trask (1995: 64–65). One of the authors (Bl 328) has suggested another possibility: **hun-* ‘1’ + (Y) *-cu-* ‘take away’, i.e. ‘(10) take away 1’.⁹⁸ Berger (Beiträge 79) derives *hunćó* and *hućó* < **húnćio* < **hun-tr-ío* (‘1’ + ‘10’ + plural, i.e. ‘10 – 1’, like Finnish *yhdeksän*) Finally, Starostin (CSCG 255, CSCP 81) compares Bur **hunćó* ‘9’ with PEC **ʔilćwi* ‘9’ (Andi *hoço-*, Khwarshi *ũči-n*, Lak *urç*, etc.), though this does not account very well for the Bur counting form *huntí*.

In spite of Č’s ingenious (though, we think, erroneous) attempts, it is apparent that there is nothing in common between the Bur and IE numeral systems. The kinship of the Bur numeral system with those of DC languages is most clearly seen in the words for 2, 2², and 2³.

Lexicon

If Burushaski is an IE language, one would expect it to have something in common with the inherited IE lexicon. We have already seen above that large segments of Bur basic vocabulary, including pronouns and numerals, have cognates in Dene-Caucasian languages. Here we compare some of the core vocabulary in both languages according to basic semantic fields.

Kinship terms

PIE **pə₂ter-* (**pH₂ter-*) ‘father’ / **māter* (**meH₂ter-*) ‘mother’ : Bur **-uy* ‘father’, **-mi* ‘mother’. The Bur word for ‘mother’, like the initial element of PIE **māter*, is a variation of the universal stem **mA*, cf. Basque **eme* ‘female’, **ama* ‘mother’, Yeniseian **ʔama* ‘mother’, etc.

Bur **-uy* ‘father’⁹⁹ is clearly unrelated to PIE **pH₂ter-*, or to anything else in IE, for that matter. In any case the Bur words lack the characteristic IE structure ending in **-ter*.¹⁰⁰

⁹⁸ “Interestingly, we have a similar situation in Vedic and later OI, where 19 = 20 minus 1. The minus is expressed by *ūna* ‘gap’: thus: *eka-unā-vimśati* [> *ekonavimśati*] 20 – 1 = 19, [likewise] for 29, etc. Again areal influence? The Iranians of course do not do it.” (M. Witzel, pc.).

⁹⁹ A highly speculative hypothesis for the origin of Bur **-uy* ‘father’ < **‘foster-father’* could involve the PDC verb **=iʔwVl-* ‘to eat’ (PNC **=iʔwVl* ‘to feed on, to eat; to bite’, PY **ʔiʔr-* ‘to eat’, Basque **alha-* ‘to graze, feed’: CSCG 111). See above for the proposed lateral origin of Bur /y/. A semantic analogy may be found in Old Irish *al-tru* ‘foster-father’ < *al-* to feed, nourish < PIE **al-* ‘to raise, to feed’.

¹⁰⁰ Elsewhere one of the authors has tried to demonstrate that the IE kinship terms in **-ter* should be segmented as **p-H₂-ter-* ‘father’, **m-eH₂-ter-* ‘mother’, **b^hr-eH₂-ter-* ‘brother’, **d^hug-H₂-ter-* ‘daughter’, **ǵem-H₂-ter* ‘son-in-law’. The suffixal complex **(e)H₂-ter-* corresponds to Hittite *-adar* / Luwian *-attar*, which bear a function similar to English *-hood* or German *-heit*. Hence these IE kinship names probably reflect an abstract meaning which can be expressed as ‘fatherhood, motherhood, brotherhood, daughterhood’, etc. (Blažek 2001, 24–33).

PIE ***bhrā-t-er-** (**b^hreH₂-ter-*) ‘brother’ / ***swes-er-** ‘sister’ : Bur has instead one stem ***-ču** that serves as both ‘brother of male’ and ‘sister of female’, and two others, ***-hulVs** ‘brother of female’, and ***-yást** ‘sister of male’.¹⁰¹ All of these Bur words are bound morphemes — they can only occur with a possessive prefix — and all of them have parallels in DC languages.

Bur ***-ču** closely resembles the Caucasian stem **=iči* that serves as ‘brother’ and ‘sister’, often with changing class prefixes (e.g., Agul *ču* ‘brother’, *či* ‘sister’, Chechen *wa-ša* ‘brother’, *ja-ša* ‘sister’, Dargwa *u-zi* ‘brother’, *ru-zi* ‘sister’, etc.); cf. Basque **an-his-ba* ‘sister (of a woman)’; PST **čäjH* ‘elder sister or brother’; Yeniseian **b-[i](?)s* ‘brother, sister’ (CSCG 112).

Bur **-hulVs* ‘brother (of female), husband’s brother’ resembles PEC **χalʔV / *ʔVχalV*, a word root that gives rise to Lak *aħal-ču* ‘bridegroom’s kinsman’ and *aħal-š:ar* ‘bride’s kinsman’, along with cognates that mean ‘guest’ (probably a semantic development from **‘wedding guest’* < **‘kinsman invited to a wedding’*): Dargwa Akusha *aħal*, Tabasaran *χalu-žv*, etc. (NCED 1067).¹⁰²

Bur **-yást* ‘sister of male, wife’s sister’ can be compared with PEC **čHVdV* ‘woman’ (Chechen *zuda* ‘woman’, Dargwa Chirag *cade* ‘female’, Hunzib *čutula* ‘bride’, etc.), Urartian *ašti* ‘woman, wife, bride-groom’, PY **cVt-* ‘husband’, Basque **(ema-)ste* ‘married woman, wife’ (CSCG 26).

PIE ***sū-nu-**, ***sū-yo-** (**suH-nu-*, **suH-yo-*) ‘son’, ***dhug(h)a-t-er-** (**d^hug-H₂-ter-*) ‘daughter’ : Bur has one stem, ***-i**, for both ‘son’ and ‘daughter’. Starostin (CSCG 156) connected this with PST **ηe(j)* ‘child, young’, with the regular Bur loss of initial **η*.¹⁰³ Cf. also Basque **nini* ‘child, doll’.

Bur also has the word ***-s** (Yasin *-is*, Hunza, Nager *-sk*) ‘human child, animal’s young’, probably cognate with Caucasian **=išwĚ* ‘son, daughter’ (Avar *w-as* ‘son’, *j-as* ‘daughter’, Kabardian *šā-wa* ‘son’, etc.); Basque **śV* (in **śe-me* ‘son’, **o-śa-ba* ‘uncle’, **alha-ba-śo* ‘granddaughter’, **a-śa-ba* ‘ancestor’, etc.); PST **śū* ‘grandchild’ (CSCG 113).

IE **suH-nu-*, **suH-yo-* ‘son’ are derivatives of the verb **seuH-* ‘to give birth’ (IEW 913–14; Rix et al. 2001: 538). Probably related are Kartvelian **šew-/šw-* ‘to give birth’: Georgian *švili* ‘son’ (Klimov 1998, 248, 251) ||| Afro-Asiatic: Cushitic: (East) Somali *was*, Konso *os* ‘to have sexual intercourse’ || Omotic: Shinasha, Mocha *šuw-*, Kafa *šii-*, Anfillo *šuy-* ‘to give birth’ (Lamberti 1993: 384) ||| Uralic: Mari *šəwä* ‘to give birth’ (Illič-Svityč 1967: 361: IE + Kartv. + Mari). There is likely a remote (‘Borean’) connection between PDC **=išwĚ* and the other words in this paragraph, but the morphological features are entirely different: IE stem + suffix *vs.* Bur (and DC) prefix + stem.

In sum, there is no resemblance whatsoever, whether in overall kinship structure or lexemes, between Bur and IE kinship terms, apart from some possibly very remote (‘Borean’) cognates (PIE **sū-* ~ Bur **-s*, PIE **mā-t-er-* ~ Bur **-mi*).

Body part words

PIE ***kerd-** ‘heart’ : Bur ***-s** ‘heart, mind’. The Bur word has been compared with Caucasian: PNC **ǰāmsa* ‘sky, cloud; soul, breath; god’ (Akhwakh *as:i* ‘breath’, Ubykh *p-sa* ‘soul, spirit’, etc.), Basque **haise* ‘wind’, etc. (CSCG 263);¹⁰⁴ another possibility is comparison with

¹⁰¹ These words have extended meanings in the Burusho kinship system: **-ču* also serves as ‘husband of a man’s sister’, **-hulVs* as ‘husband’s brother’, and **-jást* as ‘wife’s sister’. The typology of the Bur sibling terms is similar to Basque: **anaie* ‘brother of male’ / **ne-ba* ‘brother of female’; **an-his-ba* ‘sister of female’ / **aře-ba* ‘sister of male’.

¹⁰² In these words /a/ denotes a pharyngealized vowel, and /χ/ a voiceless pharyngealized uvular fricative, otherwise written (more awkwardly) with the *paločka* as /aI/ and /χI/, respectively.

¹⁰³ Seen also in Bur **a-* ‘1st person singular pronominal prefix’ ~ PST **ηā-* ‘I, we’, PEC **nĭ* ‘I’, Basque **ni* ‘I’, etc. (CSCG 156, CSCP 48).

¹⁰⁴ For semantics, cf. Rumanian *inimă* ‘heart, soul, mind,’ etc. < Latin *anima* ‘wind, air, breath, spirit, mind’, etc.

Basque **bi-si* ‘life; alive’, PNC **šīHwV* ‘breath, breathe’: Chechen *sa* ‘soul’, oblique base *si-na-*, etc.) (CSCG 188).

The IE word is, we think, cognate with Kartvelian **mķerd-* ‘chest, breast’ (Klimov 1998, 123; Illič-Svityč 1971, #200: IE+Kartv.) and, in Afro-Asiatic: Chadic: Hausa *ķirji*, pl. *ķiraaza* ‘chest’, Gwandara *gariji* id. (Skinner 1996).

PIE **ok^{w-}* (**H₃ek^{w-}*) ‘eye’ : Bur **-l-či / *il-* (the latter in compounds). The Bur word is clearly comparable with Caucasian: PNC **ʔwīlzi* ‘eye’ (cf. especially Dargwa **ħuli*, Tabasaran, Agul, Rutul *ul*) and Yeniseian: PY **de-s* (Ket *dēs*, Kott *tīš*, Pump. *dat*, where **d-* is a regular initial reflex of PDC **l-*: CSCG 266, CSCP 68).

The IE word **H₃ek^{w-}* has, we think, external cognates in Altaic: PA **úk^u* ‘to understand, look into’ (Old Turkic *uq-* ‘to understand’, Old Japanese *uka-kap-* ‘to look into, inquire’, etc.); cf. also Semitic: Ugaritic **aq* ‘eyeball’; Hebrew **āqā* id. (Koehler & Baumgartner 2001 I: 873); Geez **oqa* ‘to know, understand, observe’, Amharic *awwäqä* ‘to know’, Harari *āqa* id. (Leslau 1987: 78–79); Cushitic: (Central) **-aq* ‘to know’ > Kemant *ax-*, Kunfāl *ah-*, Awngi *-aq-* id.; (East) Somali *-aq* id. (Appleyard 2006, 89–90).

PIE **ō(w)əs-* ‘mouth’¹⁰⁵ : Bur **qhát*. The latter is comparable with Caucasian: PEC **qwīti* ‘Adam’s apple, uvula’ > Lak *q^wiṭ ~ qiṭ ~ quṭ* ‘Adam’s apple, beak’,¹⁰⁶ Kryz *χuluṭ* ‘larynx’ (< **χuṭ-*ul), etc. (CSCG 172).¹⁰⁷

PIE **kara-*, **kera-* ‘head’¹⁰⁸ : Bur **yaṭ-is*. Cf. Caucasian: PEC **hwōmdV* ‘brain, head’: Avar *ṣadā-* ‘head’, Tsez, Hinukh *ata* ‘brain’, Archi *ont* ‘head (of woman or animal)’,¹⁰⁹ etc. (CSCG 98).¹¹⁰

PIE **nas-*, **nās-* ‘nose’ : Bur **muś* ‘nose’, **-múś* ‘snot’. Cf. Caucasian: PNC **mfāččē* ‘edge’ (Ingush *mṣiz-arg* ‘snout’, etc.: NCED 813); or PEC **mHārčwV* ‘pus; mucus, snot’ (Chechen *marš* ‘snot’, Tsakhur *maš* ‘pus’, etc.: CSCG 144); Basque **mośu* ‘nose, face, kiss, point, beak’.

PIE **ost(h)-* ‘bone’¹¹¹ : Bur **-ltén* ‘bone’, **-ltán-c* ‘leg’. Cf. Caucasian: PEC **χwVnʔV* ‘groin; part of leg’: Avar *ḷ:an* ‘groin’, Archi *ḷ:on-t’ol* ‘fingernail’, Kryz *kin* ‘ankle’, etc.; PST **ləṅ* ‘shin, ankle’ (CSCG 140).

PIE **ped-* ‘foot’ : Bur **-húṭ-* ‘foot’. Cf. Caucasian: Avar *ḥeṭ / ḥeṭé* ‘foot’, Dargwa Kaitag *ṭah* ‘foot, hoof’, etc. < PEC **fūṭwV̄ / *ṭwīfV̄*; PST **tīH ~ *dīH* ‘heel, ankle’ (CSCG 207).

PIE **yek^{w-}* (**(H)jék^wr(t)*) ‘liver’ : Bur **-ken* ‘liver’. Cf. Caucasian: PEC **k_{un}HV* > Chamalal *ķū* ‘liver’, Bezhta, Hunzib *koma* ‘kidney’, etc. (NCED 728); cf. PST **kjVnH* ‘kidney’ (CVST V: 58, no. 214).

¹⁰⁵ According to D. Q. Adams (EIEC, p. 387), the form **ō(w)əs-* ‘mouth’ should be reinterpreted as two distinct stems: (i) **H_{1/4}óH₁(e)s-*, gen. **H_{1/2}eHsós*; (ii) **H₃oust-ā*.

¹⁰⁶ /i/, /u/ represent pharyngealized vowels, also (awkwardly) written *il*, *ul*, where *l* represents the *paločka* in the Cyrillic orthography of Caucasian languages.

¹⁰⁷ Alternatively, cf. PNC **GwētV ~ *GētV* ‘crop, crawl; beak, Adam’s apple’ > Lak. *q:īṭi* ‘uvula’, etc. (CSCG 172).

¹⁰⁸ The IE word for ‘head’ should be reconstructed as **k_rr_éH₂*, gen. **k_rr_éH₂ós*, singulative **k_{ór}H₂s_r*, collective **k_{ér}H₂or* (Adams, EIEC 260). The meaning ‘brain’ developed in Latin *cerebrum* and Old High German *hirni*.

¹⁰⁹ /o/ represents a pharyngealized vowel = NCED /oI/ (cf. note to ‘mouth’, etc.)

¹¹⁰ The correspondence of Bur **y-* = **j-* ~ PNC **ñ-* is recurrent. Cf. Bur **yáltar* ‘leafy branches’, etc. ~ PEC **hāl_χVV* ‘branch, pod’ (above in the discussion of Bur *-lt-*).

¹¹¹ The IE word ‘bone’ should be reconstructed as **H₃est(H)-*.

Č (p. 38) attempts to connect the Bur word with PIE $*(H)\acute{i}ék^{w}r(t)$ (a heteroclitic $-r/-n$ stem), ignoring the root syllable $*(H)\acute{i}ék^{w} = *yek^{w-}$,¹¹² while another originally heteroclitic word, PIE $*wed-$ ‘water’, is compared with Bur *buđóo* ‘rinsing water’, which has no trace of either heteroclitic suffix $-r$ or $-n$. (Cf. instead OI $*bud\acute{y}ati$ ‘sinks’, Marathi *budbud* ‘sound of bubbling’, etc.: CDIAL 9272.)

PIE $*(o)nAbh-$ ‘navel’¹¹³ : Bur $*-sú[m]$ ‘umbilical cord, navel’¹¹⁴ ~ Cf. Caucasian: Chamalal *šūj*, Lak *çun*, Dargwa *zu*, Khinalug *çum* ‘navel’, etc. < PEC $*zōnʔū$ (CSCG 249).

Basic verbal roots

PIE $*\acute{k}lewe-$ ‘to hear’ : Bur $*-yal-$ ‘to hear’ ~ cf. Caucasian: PNC $*=e\lambda u$ ‘to hear’: Andi *anli-* ‘to hear’, Budukh *ix-* id., etc. (NCED 411, CSCG 46)

PIE $*ed-$ ‘to eat’ : Bur $*\acute{s}i$ (with class I, II, III singular object) / $*\acute{s}u$ (with class I, II, III plural object) / $*\acute{s}i$ ‘to eat’ (with class IV object) ~ cf. Yeniseian: PY $*s\bar{i}$ ‘to eat’ ~ PST $*zha$ id. ~ Caucasian: Tsez, Khwarshi $=a\check{c}$ ‘to eat’, Tindi *c:a-* ‘to drink’, etc. < PEC $*=V\check{c}V$ ~ Basque $*ausi-$ ki ‘to bite’ (NCED 1017, CSCG 209)

PIE $*dō(w)-$ ‘to give’¹¹⁵ : Bur (1) $*-u-$ ‘to give’ (only with class I, II, III object), (2) $*-čhi-$ ‘to give’ (only with class IV singular object); (3) $*-gūn-$ ‘to give’ (only with class IV plural object).

The three class-determined Bur verb stems have distinct DC origins:

(1) cf. PNC $*m\bar{V}xw\check{V}$; PST $*\eta aH$ ‘to give, borrow, rent’ (CSCG 156);¹¹⁶

(2) cf. Caucasian: Chamalal *ič-* ‘to sell, give’, Bezhta $=is-$ ‘to sell’, Khinalug *če=kwi* ‘to sell’, etc. < PEC $*=i\check{c}V$ (NCED 626);

(3) ? cf. PEC $*HVqVn-$ ‘to take, snatch’ (NCED 615); PST $*gōn$ ‘to collect’ (CVST V: no. 56); Basque $*(e)-ken-$ ‘to take away’, etc.¹¹⁷

Here the verb used in Bur is determined by the *class of the object*. (Cf. the preceding example, ‘to eat’.) This is a totally un-Indo-European feature, but it appears to be a deep-seated trait of Dene-Caucasian, with manifestations at least in Basque and Na-Dene.¹¹⁸

Other basic words

PIE $*(e)nomen-$ ‘name’¹¹⁹ : Bur $*yek$ ‘name, reputation’: (Y) $-yé\acute{k}$, pl. $-yé\acute{k}i\eta$, $-yé\acute{k}i\acute{c}i\eta$, (H, N) $-i\acute{k}$, pl. $-i\acute{k}i\acute{c}i\eta$. Cf. Yeniseian: PY $*?iG$ > Ket \bar{i} ‘name’, pl. $\varepsilon\eta\eta$, Kott *ix*, *ix*, pl. *ik\eta* / *ek\eta* / *eä\eta*. This is

¹¹² Lorimer (1935) considered Burushaski $-ak\eta$, pl. $-akim\eta$, $-aki-n\eta$ ‘liver’ a borrowing from Indo-Iranian: OI $yákr\eta$, gen. $yakná$ ‘liver’, Pashto $yina$, Yidgha $yēgān$ id. etc. (IEW 504; Bailey 1979: 108).

¹¹³ The IE word ‘navel’ should be reconstructed as $*H_3nob^h$. (Adams, EIEC 391).

¹¹⁴ Underlying $*m$ found in the plural form $-súimuc$.

¹¹⁵ In LIV 105–07 reconstructed as $*deH_3-$ & $*deH_3u$.

¹¹⁶ According to Starostin < PDC $*\eta VxwV$ ‘to give, borrow’, with regular loss of initial $*\eta$ in Bur (CSCP 48).

¹¹⁷ Assuming the common semantic relationship of ‘give’ and ‘take’ (as in PIE $*g^hab^{(h)}$ -, etc.).

¹¹⁸ This trait is highly developed in Na-Dene: Athapaskan: e.g. Navajo $-t\acute{i}$ ‘handle animate singular object’, $-k\acute{a}$ ‘handle a rigid container with contents’, $-žòðž$ ‘handle a set of parallel long rigid objects’ (each representing a different class). And at the far western extreme we find remnants of similar tendencies in Basque: the dialects have different words to express the concept ‘dry’, e.g. Zuberoan *agor* pertains to sources and streams of water, *útsal* to aliments and terrain, *eihar* to the human body, fauna and flora, and *idor* to dryness in general.

¹¹⁹ The IE etymon ‘name’ has been reconstructed as $*H_1nóm\eta$ (Polomé & Mallory, EIEC 390).

one of the remarkable parallels between Bur and Yeniseian (cf. Toporov 1971), extending even to the inanimate plural endings with velar nasals.¹²⁰

We can see from these examples that Bur really shares almost no basic vocabulary with IE.

Conclusions

It is impossible to disprove relationship. We agree with Čašule that there may be some kind of very deep-level relationship between Burushaski and IE. However, we propose, and we believe we have shown, that Burushaski is much closer genetically to the Dene-Caucasian languages than it is to Indo-European.

Much of the similarity between Bur and IE can be attributed to a long period of symbiosis and language contact between Bur and its Indo-Iranian neighbors. There is evidence that early Indo-Aryan was influenced by Bur (or perhaps a wider-ranging Burushic family) as its speakers entered the Indian subcontinent by way of the Hindukush and Pamir regions (see, e.g., Lorimer 1937, Tikkanen 1988, Witzel 1999). We noted above such features as the vigesimal numeral system (discussed above) in Nuristani, Dardic, Pamir, Pašto, Baluči, and Asiatic Romani. There are also lexical borrowings from Bur that have penetrated into the basic lexicon, e.g. in Šina: *birdi* ‘earth’, *phurgū* ‘feather’, *čhĩš* ‘mountain’, *tam doiki* ‘to swim’; and in Khowar: *tip* ‘full’, *phur* ‘hair’, *būk* ‘neck’, etc. (Kogan 2005: 173). These parallels reflect only areal, not genetic relations, and so they are the results of secondary convergence. The areal parallels indicate the existence of a much wider expanse of the Burushic stratum in the past, but there are no direct Burushaski-Indo-Iranian/Indo-European genetic links, only some very old elements that represent archaic residue from a remote ancestor (Borean) common to the ancestor of Indo-European (Nostratic or Eurasiatic) and the ancestor of Burushaski (Dene-Caucasian).¹²¹

Postscript

Since this article was originally written (around mid-2007) there have been some new developments in the Dene-Caucasian hypothesis. A consensus has been developing that the eastern members, Sino-Tibetan and Na-Dene, probably result from an early split of the DC proto-language, leaving the western branches (Basque, Caucasian, Burushaski, and Yeniseian) to a period of common development in which some grammatical and lexical features (e.g., suppletive pronominal paradigms [see above]; words such as western **ʔwĩlʔi* ‘eye’ [see above] vs. eastern **wěmqV* ‘eye’¹²²) crystallized.

In a recent lexicostatistical study by George Starostin (p.c.), using the 50 most generally stable items on the Swadesh 100-word list (G. Starostin 2010b), a tentative subgrouping has emerged in which the eastern branches (Sino-Tibetan and Na-Dene) are indeed opposed to the western group (Basque, Caucasian, Burushaski, and Yeniseian), thus confirming the old „Sino-

¹²⁰ Besides ‘name’, Bur and Yeniseian share several important basic lexical isoglosses, e.g. ‘eat’ (B **śi* / **ši* / **šu* ~ Y **sī-*), ‘egg’ (B **tĩŋ-* ~ Y **jeʔŋ* / **jɔʔŋ*), ‘eye’ (B **-l-či* ~ Y **de-s-*), ‘hand’ (B **-reŋ* ~ Y **rɔŋ*), ‘leaf’ (B **ltap* ~ Y **jāpe*), ‘root’ (B **cheréš* ~ Y **čĩš-*), etc., as well as the pronominal and numeral words discussed above.

¹²¹ For example, the case of Bur **-s* ‘child, young’ ~ PIE **suH-*(*-nu-*, *-yo-*) ‘son’, cited above.

¹²² PST **myVk* (Old Chinese 目 **muk*, Tibetan *mig*, Lepcha *mik*, a-*mik*, etc. , ‘eye’); Tlingit *wàc*, Athabaskan **-nə-wēc-əʔ* ‘eye’. See CSCG 216: this word was preserved with other semantic developments in the western DC languages.

Dene“ idea of Edward Sapir (Bengtson 1994). Within the western group G. Starostin finds a split between a Basque-Caucasian branch on the one hand and a Burusho-Yeniseian branch on the other (Bengtson 2010a, 2010b; G. Starostin 2010a).

As to the recently developed „Dene-Yeniseian“¹²³ idea initiated by Ruhlen (1998b) and continued by Vajda (*e.g.*, 2008, 2009, 2010), it now appears that the Yeniseian languages have much more in common with Burushaski than (directly) with the Na-Dene languages. In other words, there is indeed a “relationship” between Yeniseian and Na-Dene, in the sense that both ultimately belong to different branches of the Dene-Caucasian macrofamily, but in our view they do not by themselves form a valid taxon.¹²⁴ Likewise, Na-Dene seems to form a taxon with Sino-Tibetan and is thus closer to the latter than to Yeniseian.

Abbreviations of languages and dialects

Bur	Burushaski
DC	Dene-Caucasian (Sino-Caucasian)
H	Hunza (Burushaski)
JSp	Judaeo-Spanish
Lat	Latin
MSp	Middle Spanish
N	Nager, Nagar (Burushaski)
OSp	Old Spanish
PDC	Proto-Dene-Caucasian (Proto-Sino-Caucasian)
PEC	Proto-East Caucasian
PNC	Proto-(North) Caucasian
PST	Proto-Sino-Tibetan
PWC	Proto-West Caucasian
PY	Proto-Yeniseian
Tib	Tibetan (Classical)
Y	Yasin (Burushaski) = Werchikwar

Abbreviations of sources cited

Beiträge	Berger (2008)
Bl	Blažek (1999)
CDIAL	<i>Comparative Dictionary of Indo-Aryan Languages</i> (Turner 1966)
CLI	<i>Compendium Linguarum Iranicarum</i> (Schmitt 1989)
CSCG	Comparative Sino-Caucasian Glossary (Starostin 2005a)
CSCP	Comparative Sino-Caucasian Phonology (Starostin 2005b)
CVST	<i>A Comparative Vocabulary of Five Sino-Tibetan Languages</i> (Peiros & Starostin 1996)
EIEC	<i>Encyclopedia of Indo-European Culture</i> (Mallory & Adams 1997)
H	Hayward (1871)
Hd	Hodgson (1857)
IEW	Pokorny (1959)
LDC	<i>Lexica Dene-Caucasica</i> (Blažek & Bengtson 1995)
NCED	<i>North Caucasian Etymological Dictionary</i> (Nikolaev & Starostin 1994)
SSEJ	<i>Sravnitel'nyj slovar' enisejskix jazykov</i> (Starostin 1995)

¹²³ See <http://www.uaf.edu/anlc/dy/>.

¹²⁴ For an Indo-European analogy, there is a “relationship” between, say, North Germanic and Western Iranian, in the sense that both are subgroups of IE, but they do not form any kind of taxon by themselves.

ToB	Tower of Babel databases: http://starling.rinet.ru/main.html
W	Werner (2002)
X	Xelimskij (1982)

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Статья посвящена относительно недавней гипотезе, выдвинутой И. Чашуле, согласно которой язык бурушаски, традиционно считавшийся изолятом, на самом деле входит в состав индоевропейской семьи. Авторы прибегают к сравнительному анализу, сопоставляя гипотезу Чашуле и те конкретные фонетические, морфологические и лексические аргументы, которые он приводит в ее поддержку, с соответствующими аргументами в пользу т. н. «дене-кавказской» гипотезы, которая утверждает, что бурушаски на правах отдельной ветви входит в обширную макросемью, включающую языки семьи на-дене, а также сино-тибетские, северокавказские, баскский и енисейские языки.

Анализ данных показывает, что аргументы в пользу дене-кавказского происхождения бурушаски в количественном отношении значительно превышают аргументы в пользу индоевропейско-бурушаскской гипотезы. Связи бурушаски с индоевропейской семьей оказываются либо чересчур бессистемными (в области фонетических соответствий), либо спорадическими и явно недостаточными (в области морфологии), либо вообще практически отсутствуют (в области базисной лексики). Таким образом, все случаи сходжений между индоевропейскими и бурушаскскими элементами следует объяснять либо как (а) следы недавних контактов между бурушаски и индоарийскими языками, либо как (б) случайные сходства, либо, в очень немногочисленных случаях, как (в) следы «сверхглубокого» родства, которые никоим образом не представляют собой эксклюзивных «индоевропейско-бурушаскских» связей.

Ключевые слова: индоевропеистика, язык бурушаски, макрокомпаративистика, дене-кавказская макросемья, языки-изоляты.

