

The Indo-European Origin of the Burushaski Language and the Dene-Caucasian Hypothesis

Ilija Čašule

Abstract

*The paper is a detailed response to John Bengtson's and Václav Blažek's critique of the theory of the Indo-European origin of Burushaski. The scholars (2011) (BB) published in *The Journal of Language Relationship* an extensive piece in which they take issue with the hypothesis on the Indo-European origin of the language isolate Burushaski and provide examples of their Dene-Caucasian interpretation. This article addresses and discusses the validity of their claims and presents the relevant evidence. All the material presented in this paper at the phonological, morphological and lexical level demonstrates clearly and unequivocally that the language isolate Burushaski is at its core an Indo-European language, perhaps creolised in contact with another non- Indo-European language. The grammatical correspondences in the case system and in the category of number, in the adjectival suffixes, in all of the demonstrative pronouns and adverbs, the personal pronouns, partially in the numerals, in the entire non-finite verbal system, verbal suffixes and prefixes outline the IE make up of Burushaski. A language comparison that has a large number of grammatical correspondences is significantly much stronger. At the lexical level, the evidence is even more powerful and surpasses the tentative Dene-Caucasian hypothesis.*

Keywords: Burushaski, Indo-European Origin, Hunza, Nager, Yasin.

1. Introduction

The scholars J.D. Bengtson and V. Blažek (2011) (BB) published in *The Journal of Language Relationship* an extensive piece in which they take issue with our hypothesis on the Indo-European origin of the language isolate Burushaski at the phonological, morphological, and lexical level and provide examples of their Dene-Caucasian interpretation.

The aim of this article is to address and discuss the validity of their claims about our work and present the relevant evidence. It is not meant to be a critique of the DC hypothesis.

One of the major flawed aspects is the fact that BB looked only at our early work (Čašule 1998 and Čašule 2003a) “over the last two decades, Ilija Čašule has published a monograph and an article”. In what is a major oversight, they failed to consult and take into account Čašule (2003b), which covers some 70 correspondences between Indo-European and Burushaski in the names of body parts, or Čašule (2004), which outlines the correlation in unique isoglosses between Burushaski and Phrygian. They were also not aware of Čašule (2009) which analyses the correspondences in shepherd vocabulary (30 of them, ten of which correlate with the Balkan languages) and of Čašule (2010) which is a phonological and lexical study of the Burushaski velars. These were all published in eminent journals and one is a book. This is a serious and disabling deficiency, if your aim is, as the authors say to “demolish” a hypothesis (p. 26).

BB firstly looks at the phonological evidence. As throughout the discussion, the authors are selective and choose a very limited number of aberrant or rare examples to identify possible loanwords from Indo-Aryan for which in some cases we have also expressed reservations.

The assessment (p. 26) that some comparisons are semantically tortuous provides incorrect information. Bur *hargín*¹ ‘dragon, ogre, which

¹ For easier reference, we reproduce Berger’s table of the phonological system of Hz Ng Burushaski, which is essentially valid for the Ys dialect as well. Yasin Burushaski does not have the phoneme *çh* – for Ys Burushaski, see Tiffou-Pesot (1989: 7-9):

	<i>a</i>					<i>ʂ</i>	<i>ś</i>
<i>s</i>							
<i>e</i>	<i>o</i>		<i>qh</i>	<i>kh</i>	<i>th</i>	<i>th</i>	<i>çh</i> <i>ćh</i>
<i>čh</i>	<i>ph</i>						
<i>i</i>		<i>u</i>	<i>q</i>	<i>k</i>	<i>t̥</i>	<i>t</i>	<i>ç</i> <i>ć</i>
<i>ć</i>	<i>p</i>						
			<i>ḡ</i>	<i>g</i>	<i>d̥</i>	<i>d</i>	<i>j</i> <i>j</i>
<i>z</i>	<i>b</i>						
				<i>ñ</i>		<i>n</i>	
	<i>m</i>						
<i>y</i> <i>h</i> <i>l</i> <i>r</i>							

Table 1. Phonological system of Burushaski (Berger 1998 I: 13).

comes into being from an ordinary snake, when it becomes big and old', in neighbouring Shina 'female snake' (L 196) is not compared simply to 'silver', as BB states. In Čašule (2004: 74), also in (2017a, Chapter 2 and 152-154) we argued for a strong and direct correspondence of the Burushaski *hargín* 'dragon' with the Phrygian gloss in the ancient lexicographer Hesychius *argwitas* (ἀργυῖτας. τὴν λάμιαν. Φρύγες 'dragon, Lamia' (Neroznak 1978: 136, who notes that in antiquity a Lamia was a mythological woman-snake.) The same goes for Bur *diú* 'lynx' which is not compared to 'to die' but to Phrg *dawos*, *daos* 'wolf' or alternatively to Gothic *dīus* 'wild animal' (Čašule 2017: 120-121). BB confuses etymologies from attested words.

The direct and precise semantics in our comparisons has been praised by many linguists.²

2. Phonological correspondences

The assessment that our proposed phonological correspondences are not consistent is supported by incorrect examples (e.g. the *-k-* in *bérkat* 'summit, peak, crest; height' derives from *-g-*, as explained by Berger (2008: 4.17) who states that "after *r* media are as a rule voiceless". BB rejects any examples where there is complexity and additional phonematic rules or consonantal alternation.

Notes: 1. All five vowels can be phonetically long, but for phonological and prosodical reasons Berger marks them as double (two component) vowels, in order to mark the position of the stress. This notation system was developed by Buddruss and Berger to indicate the pitch contours, which they consider as a result of first- or second-mora stress (Bashir p.c.). 2. Retroflex consonants are marked with an underdot. 3. *w* and *y* are allophones of *u* and *i*. 4. *ċ* = *ts* in Lorimer and *c* in Tiffou-Pesot (1989). 5. *ġ* = *ɣ* in Lorimer and Tiffou-Pesot (1989). It is a voiced fricative velar /*ɣ*/. 6. *ñ* = [ŋ] or [ng] [nk]. 7. The posterior *q* is similar to the Arabic *qāf*. (Berger I: 2.26). 8. The aspirated posterior *qh* is found only in Hz Ng. In Yasin to the latter corresponds a voiceless velar fricative *x*, similar to the German *ch*, as in *Bach*. 9. *ɣ* is a retroflex, articulated somewhere between a "r grasséyé and a *ɣ* or rather a fricative *r* with the tongue in a retroflex position" (Morgenstierne 1945: 68-9). 10. A hyphen before a word indicates that it is used only with the nominal prefixes.

² The prominent Phrygian and Ancient Balkan specialist Vladimir P. Neroznak (1998: ix-xiii), noted that the phonematic correspondences in Čašule (1998) are remarkable and that there is semantic compactness and no semantic latitude, as well as that "...the lexical parallels [and material and structural correspondences] proposed by the author between Burushaski and Phrygian...are highly convincing".

One general point that needs to be made is that the Burushaski-Indo-European³ correspondences involve very few words with retroflexes and the uvulars or with the phoneme y , or with ς and \acute{s} or j .

2.1 The retroflex consonants.

In Burushaski there is alternation between d and \acute{d} or t and \acute{t} . For a discussion of the development of the retroflex stops, see Čašule (2003b: 26-28). Of course, this does not mean that they are in “free variation”, but in the phonematic reconstruction this means that some of the retroflexes go back to dentals which needs to be factored in any analysis.

Note: $t : \acute{t} =$ Ys *-yátis* : *-yátes*, Hz Ng *-yátis* ‘head’ (T-P 152) (B 476) (v.), where the retroflex would have to be secondary; Ys *tis* : Hz Ng *ṭis* (B 446); Ys *toq* : Hz Ng *ṭoq* (B 447); Ys *tak* : Hz Ng *ṭak* (B 444); Bur *abáato* : *abáato* (also *abádo*) (B 11); Bur *phirpít* : *birpít* (B 55); Bur *huntí* (B 206) : *hunṭí* ‘nine’ (Will 175-176) (v.); Bur *ćot* (U *ćūt*) : *cut* (B 91); Bur *tām* : *ṭam* (L 343); Hz Ng *ćaqóoti* : Ys *ćaqóti* (B 85); Ng *damkhootá*, Hz *damguṭá* : Ys *damkutáh* (B 113); Bur *tambuk* : Khw *ṭambuk* (L 343); Bur

³ We reproduce the summary of phonological correspondences between Indo-European and Burushaski (Čašule 2010: 11-12):

IE $a >$ Bur a ; IE $e >$ Bur e : Hz, Ng i ; IE e (unstr.) $>$ Bur a ; IE $\bar{e} >$ Bur i , $ée$; IE $o >$ Bur $ó$
 IE o (unstr.) $>$ Bur a , u ; IE $\bar{o} >$ Bur $oó$, $óo$; IE $i >$ Bur $i:u$; IE $u >$ Bur $u:i$
 IE ai , ei , oi ; $eu >$ Bur a ; IE au , $ou >$ Bur u

PIE h_1- $>$ Bur $h-$; PIE h_1e- $>$ Bur $he-$; PIE $h_1\mu e r-$ $>$ Bur $har-$: $-war-$: $her-$
 PIE h_2- $>$ Bur $h-$; PIE h_2e- $>$ Bur $ha-$; PIE $h_2\mu e-$ $>$ Bur $-we-$: $-wa-$
 PIE h_a- $>$ Bur $h-$; PIE h_ae- $>$ h_aa- $>$ Bur $ha-$; PIE h_f- $>$ Bur $h-$; PIE h_4e- $>$ h_4a- $>$ Bur $ha-$
 PIE h_3- $>$ Bur $h-$; PIE h_3e- $>$ h_3o- $>$ Bur $ho-$; PIE h_x- $>$ Bur $h-$; PIE $h_1/2i$ $>$ Bur $i-$

IE l , m , n , $r >$ Bur l , m , n , r ; IE $\mu >$ Bur $-w/-u$; IE $\nu >$ Bur $b-$, also $m-$; IE $\tilde{i} >$ Bur y/i
 IE $\tilde{m} >$ Bur $-um$, $-am$; IE $\tilde{n} >$ Bur $-un$, $-an$; IE $\tilde{r} >$ Bur $-ur$, $-ar$; IE $\tilde{l} >$ Bur $-ul$, $-al$

IE $p >$ Bur p , ph , also $b-$; IE $b >$ Bur b , also m (rare); IE $bh >$ Bur b , also m (rare)
 IE $t >$ Bur t : th (rare) : \acute{t} , and $d-$; IE $d >$ Bur d ; IE $dh-$ $>$ Bur $d-$; IE $VdhV >$ Bur $-t-$, $-ṭ-$
 IE $k >$ Bur k : kh , $k : q$; IE $k^w >$ Bur k ; IE $\acute{k} >$ Bur k : kh , $k : q$
 IE $g >$ Bur g ; IE $gh >$ Bur g ; IE $g^w >$ Bur g ; IE $g^wh >$ Bur g ; IE $\acute{g} >$ Bur g , g ; IE $\acute{gh}- >$ Bur g , \acute{g}
 IE $s >$ Bur s or $s : \acute{c}$, ch ; IE $ks >$ Bur \acute{s}

wat : Sh *wat* (B 466); Bur *ćútikiş* : Sh *ćútēkiş* (B 94); Bur *kátara-bátara* : Sh *kátara- bátara* (B 243); Hz Ng *ćatóoro* : *tóoro* (Berger 2008: 19.30), Bur *gaját -i-* : Bur *gaját -i-* (B 142), *giṭ* : *git* (B 177), Bur Ng pl. *gutulišo* (L 188, without a retroflex) : Hz Ng sg. *guṭúl* (B 183), Ys *mutús* : *muṭhús* (Tiff 221), *taptáp -i-* (B 420) : *ṭaptap* (L 345), Ys *hutén-* : Hz Ng *uṭín-* (B 459-460). Perhaps indicative of such an alternation are the Burushaski nominal suffixes *-to* vs *-áaṭo* (B I: 19.24). Zarubin (1927: 284) indicates that even though the retroflexes can be distinguished clearly in Yasin Burushaski, they sometimes alternate with the corresponding “non-retroflex” ones, e.g. he gives *ṭap*, whereas in B (437) it is *thap*, also the expressive Bur Ys *thothór-* / *thóthor-* : Ys DC *ṭoṭóra* (Berger 2008: 3.2).

d : *ḍ* = *dumóoyo* NH : *ḍumóoyo* (B 135); *dumá*: *ḍumá* (B 135); *dukúii* correlated by B with Ys *ḍukúri* (BYs 142); Bur *udóori -i-* : Ng *uḍóor- -i-* (B 453); Ng Sh *dir* : Hz *ḍir* (B 133) (Varma 151); Ys *daṭ* : Ys *daṭ* (BYs 143); *daṇa*, *daṅga* (LYs 85) : *ḍaṅgá* (BYs 143); Hz Ng *daq* : *ḍak* vs Ys *ḍak* (LYs 75); Ng *ḍuím* : *ḍuín* (B 136); Sh *dar* : Bur *ḍar* (B 131); LYs *gádar* : BYs *gáḍar* (BYs 144); Bur *dip* : Sh *ḍip* (B 119); Bur *ḍumá* < U *dunbah* (B 135); Ys *mundál* and *mundál* (Tiff 218); Ys *dóṣṭo* : *ḍóṣṭo* (Tiff 96); Ys *ḍuq* : *duq* (Tiff 97); Ys *doş* : *dos* (Tiff 96). Consider also Berger's tentative derivation of *-dúmus* from a Skt word with a retroflex, i.e. from *ḍhōṅga-* (B 125).

BB (p. 27) provide only five examples of a possible change *rt > ṭ* or *rd > ḍ*, which they believe is responsible for the retroflexes in Bur, but the semantics is very loose.

Let us compare the DC and IE etymologies of Bur *gik*, (in L 166, only ‘anus’) also *giṭ* (secondary according to B 155) (in L 168, only ‘anus’ and only with a dental) *git* ‘anus; vulva [which is the primary meaning], intestines with inner fat behind the anus’ (in Sh *gik* ‘loin’ and *giṭ* ‘intestinal fat’ – the broader meanings in Shina confirm a loanword from Bur) (B 152, 155)

BB explains the Bur word from **girt* or **gilt* ~ Caucasian: PEC **kwilṭV* (Dargwa *kuḷṭa* ‘belly, stomach’, Agul *gutul* ‘kidney’, etc.) ~ PY **giṭd* ‘fat’: Ket, Yug *kiṭt*, Kott *kīr*; Arin *ki*. In DC the basic Bur meaning of ‘anus; vulva’ is not found, and the correspondence is with the Bur meaning ‘inner fat behind the anus’ which is secondary (here the core meaning is ‘intestines’ and ‘behind the anus’) and specific. The meaning of ‘kidney’ does not correlate well. The lack of a retroflex in Lorimer is

possibly not an error, but an example of a *t* : *t̥* alternation which would make the DC etymology unviable.

Our Indo-European etymology of *giṭ* : *git* correlates it with IE **g^wet-us* ‘stomach, intestine; womb’ (IEW 481: **g₂et-*, according to Pokorny possibly an enlargement from **gēu-* ‘bend, curve’): ON *kviðr* ‘belly, womb’, OHG *quiti* ‘vulva’, TochA *katso* ‘belly, womb’, Lat *botulus* ‘intestine, sausage’ (M-A 2 186) (not found in Indic and Iranian), from IE **g^wēt-*, or rather **gēu-* > **giu* > **gi-* + **-t* > *git* : *giṭ*.

Importantly, the IE explanation also accounts for the form *gik* < **gi-k*, as Bur has a nominal suffix *-k* (see Berger 2008: 124). Berger points to Bur *gašk* ‘thick rope for tying loads, for swings’ (B 149) < *gaśóo* ‘rope’ (B 149) < Ys *gas* ‘yarn for spinning’ < Bur *gisá-* ‘to weave’ (all grouped together in Berger 2008: 140); also Bur *humák* ‘quiver (of arrow)’ < *hunč* ‘arrow’ (B 205), etc. Further examples we have identified are: *tark*, *therk* also *šisk* ‘lead’ (according to Berger with “unclear *-k-*” or Ys *hesk* : Hz Ng *hisk* ‘comb’, etc. (for an extensive analysis, see Čašule 2017a: 220-221). This *-k* suffix is to be considered related to the Bur suffixes *-ko* and esp. *-kus* which are nominal and adjectival suffixes and can be traced to the Indo-European suffix *-kos*, **-keh₂* which creates deadjectival and desubstantival adjectives denoting ‘the characteristic of, typical of, pertaining to’ (e.g. Slavic *-ькѣ*).

There are problems in the examples with the semantics. In the discussion of Bur *-phaṭ* ‘gizzard, stomach of fowl’, the dubious semantic correlation is with Dene-Caucasian meanings of ‘lung, bladder’, ‘large intestine’, ‘buttocks, rump’. Such semantic latitude produces problematic and unreliable results.

Consider further the etymologies for Bur *gaṭú* ‘clothes, Ys cotton trousers’. The BB explanation is from **gart-* ~ Caucasian: PEC **g^wirdwV* ‘a kind of clothing’ (Avar *gordé* ‘shirt’, Dargwa Akushi *gurdi* ‘dress’, etc.) ~ Arin *got*, *kot* ‘trousers’, etc. While the semantics appears in order, there is an inconsistency in that the correspondence is with a Caucasian *-rd-* and seems irregular in that it gives *-ṭ-* in Bur and not the *-ḍ* postulated by BB (as in Bur *čhaḍúm*), and the vowels do not match. Yet the Indo-European explanation is much more viable because it provides the internal etymology of the word and its derivatives. One of the deficiencies of the BB comparisons is that the analysed words are regularly isolated.

In the IE etymology of Bur *gaṭú* ‘cloth, clothing, woman's shirt; pl. (ordinary word for) clothes’, in Ys ‘cotton trousers’ (B 151) it can be correlated internally with *gaṭál* ‘go on foot, walk’, also *kaṭál* (B 150), and

possibly here also Ng, Ys *go*, Hz Ng *gon* ‘go!, get along!, go ahead!, come on!’ (Will 57) (L 170, also *gun*) (B 157). It parallels directly PSI **gatji* ‘clothes, trousers’, e.g. OSI *gaštę* ‘trousers’, RussChSl *gaščī* ‘clothes’, *gačī* ‘trousers’, OPI *gace* (orig. meaning ‘long cloth pants’, Mcd *gak'i* ‘underpants, (rare) pants’. The Slavic words are derived from IE **g^wa-* ‘go’ with an enlargement *-t-* (ESSJ VI: 106-108) (G 224).⁴ The example is not isolated, considering the large number of unique isoglosses between Burushaski and Slavic (26+6=32) (see Čašule 2017b).

2.2. The phoneme *ɣ*.

The Burushaski phoneme *ɣ* is found very rarely in our comparisons (only in 7 examples) i.e. it is foreign to the Indo-European core layer. In the IE material it appears as a reflex of a reduplicated *ǵ* (*ɣɣ*), as in *huyóo* ‘wool-bearing animal, sheep’ (B 209) (the latter < **huyyoo* with a suffix *-yo-*) from *huyés* (sg and pl) ‘small cattle (i.e. sheep and goats)’ (B 209), in Ys also: *huís* (T-P 140) which is a direct and remarkable correspondence with IE **h₂óuis* (gen. **h₂óuios*) ‘sheep (*Ovis aries*)’.

In a very small number of verbs, it appears as an optional suffix (or enlargement), which is not found in Yasin, e.g. Hz Ng *d-stay-* ‘1. to prop up, support, stay; 2. to protect from; to hold up (an enemy), withstand; 3. to assist a person; to support, reinforce (troops)’ (B 469), Ys *d-sta-* ‘to put up and prop up by means of stones, pegs’ (BYs 176). Compare with IE⁵

⁴ Correlatable with IE **g^wa-*, **g^wem-* ‘to go, come, step’ (< **g^wə-to-lo*), OInd *jí-ga-ti* ‘he goes’, Alb *ngā* ‘I run’ (< **ga-nǵō*), Lith dial. *góti* ‘to go’, Arm *kam* ‘I stand’, OEng *cuman* ‘to come’, Gk *banein* ‘to go, walk, step’ (< **g^wə-ti-*, suffixed zero-grade form of **g^wā-*), -*batos* (< **g^wə-to-*) ‘going’, *bádos* ‘way’ (IEW 463) (Wat 33).

Another possibility, esp. for Ys *go* and Hz Ng *gon* is PIE **g^hē-* / **g^hō-* ‘to go, to leave, to depart; to abandon, forsake’ (Bomhard II: 328) (in M-A 349) **g^heh₁-* ‘to leave’: Skt *já-hā-ti* ‘to leave, to abandon, to desert, to quit’, Av *za-zā-mi* ‘to release’, Dan *gaa* ‘to go’, Grm *gehen* ‘to go’ (also found in Gk, Lat and widely in Grmc).

⁵ *Abbreviations of languages and dialects*

Alb - Albanian, *Arm* - Armenian, *Av* - Avestan, *Balt* - Baltic, *Blg* - Bulgarian, *Blt-Sl* - Balto-Slavic, *Bur* - Burushaski, *Byruss* - Byelorussian, *Celt* - Celtic, *Croat* - Croatian, *Cymr* - Cymric, *Cz* - Czech, *Dan* - Danish, *DC* - Dene-Caucasian, *Eng* - English, *Gaul* - Gaulic, *Gk* - Greek, *Goth* - Gothic, *Grg* - Georgian, *Grm* - German, *Grmc* - Germanic, *H* - Hindi, *Hitt* - Hittite, *Hz* - Hunza dialect of Burushaski, *IA* - Indo-Aryan, *IE* - Indo-European, *Ind* - Indian, *Ir* - Irish, *Irn* - Iranian, *Itl* - Italic, *JB* - Javeed Burushin, native speaker of Bur, *Khw* - Khowar, *Ksh* - Kashmiri, *Lat* - Latin, *Lett* - Lettish, *Lith* - Lithuanian, *LSorb* - Lower Sorbian, *Mcd* - Macedonian, *MCymr* - Middle Cymric, *MEng* - Middle English, *MGk* - Modern Greek, *MHG* - Middle High German, *Mlr* - Middle

**stā-* > **sta-jā* or **sta-ē* ‘to stand’, and here *y* could go back to *j* (*i*). The phoneme *y* sometimes alternating with *y* may derive from a group *-ry* or *-ny-*, as in *guyān* pl. ‘hair of one’s head’ (B 183) (< **gour-yo-* or **gun-yo-*); (N) *thóguy* ‘fine hair of small children’. Can be correlated with IE **góyur-* (gen. **gunós*) (IEW 397 **geuro-s*) ‘body hair, lock of hair’ : ON *kārr* ‘curl of hair’, Lith *gaūras* ‘down, tuft of hair’, Lett *gaūri* (pl.) ‘pubic hair’, Av *gaona* ‘body hair, colour’, OInd *guná* ‘thread, string’ (M-A 252).⁶

The Burushaski words with the alternation *y* : *y* show that *y* can also derive from a previous *y*.

Consider further the BB (p. 29) comparison of Bur with Caucasian: Chechen *ēxang* ‘woollen thread, yarn’, Rutul *arχ* ‘spring wool’, Tsakhur *arχ* ‘autumn wool’, etc. < PEC **ǰālyV* ‘wool’ (NCED 242) ~ Basque **ulhe* ‘hair, wool’ where it appears that the initial *g-* is not explained, and that the correlation of the root vowel is not consistent: DC *ē* (Chechen) : *a* (Rutul) : *u* (Basque). The semantics is once again strained, as the Burushaski meaning is very specific: ‘hair of one’s head’, whereas in the DC parallels the meaning is ‘wool’.

Irish, *MLG* - Middle Low German, *MWels* - Middle Welsh, *Ng* - Nager dialect of Burushaski, *NH* - Nasiruddin Hunzai, Berger’s Burushaski informant, *NPers* - New Persian, *NWIE* - North-Western Indo-European, *OChSl* - Old Church Slavonic, *OEng* - Old English, *OHG* - Old High German, *OIcl* - Old Icelandic, *OInd* - Old Indian, *OIr* - Old Irish, *ON* - Old Norse, *OPers* - Old Persian, *OPl* - Old Polish, *OPruss* - Old Prussian, *OSax* - Old Saxon, *OSl* - Old Slavic, *Osset* - Ossetian, *OWels* - Old Welsh, *Panj* - Panjābī, *Pers* - Persian, *PGrmc* - Proto-Germanic, *Phrg* - Phrygian, *PIE* - Proto-Indo-European, *Pk* - Prakrit, *Pl* - Polish, *PSl* - Proto-Slavic, *Rom* - Romanian, *Russ* - Russian, *RussChSl* - Russian Church Slavonic, *Sh* - Shina, *Si* - Sinhalese, *Skt* - Sanskrit, *Sl* - Slavic, *Slk* - Slovak, *Sln* - Slovenian, *Srb* - Serbian, *SrbChSl* - Serbian Church Slavonic, *SSL* - South Slavic, *Thrac* - Thracian, *Tib* - Tibetan, *TochA* - Tocharian A, *TochB* - Tocharian B, *U* - Urdu, *Ukr* - Ukrainian, *USorb* - Upper Sorbian, *VLat* - Vulgar Latin, *Wels* - Welsh, *Ys* - Yasin dialect of Burushaski.

⁶ Most probably here also Bur *phulgúuy*, in Ng *phurgúuy*, Ys *pholgó* ‘feather’ (L 293) (B 335). Berger suggests that it may be a compound word, i.e. *phul* + *gúuy* and relates the second component to *guyān*. The first component can be compared with Lith *plunksna* (old *pluksna*, *plusna*) ‘feather’, explained by Buck (246-247) as either related to *plaukas* ‘hair’, Lett *plūkt* ‘pluck’ (< IE **pleuk-* ‘flake, feather, hair’ (IEW 837) or with *k* from this group, from an old *plusna*, and thus correlated with Lat *plūma* (< **plus-mā*) ‘a feather’, OEng *flēōs* ‘fleece’ < IE **pleus-* ‘to pluck; a feather, fleece’ (Wat 68) (IEW 838). In Burushaski, either from the zero-grade **pluk-* or **plus-* (neither stem found in Indo-Iranian).

Furthermore, examples like Bur Ng *-pháguγ* ‘stick, walking stick’ : Hz *-phágo* are an indication of the facultative nature of *γ*. (and all the Caucasian and Basque examples provided by BB are with initial *m*-).

Some of the BB examples on p. 29 look interesting, but the Dene-Caucasian parallels need to be investigated further.

2.3 The uvular and velar consonants.⁷

BB states that we consider the uvular consonants “erratically occurring variants of /k/, /kh/ and /g/.” (p. 30) and give a long list of some value of possible correspondences between Bur and DC. Yet, in some of the BB examples there is an alternation of *q* and *g* (on both sides) which the authors have not explained. E.g. Bur **qorqor-* > (H) *qorqór* ‘soft porous stone’, (N) *qoqór* ‘small stones’ ~ Caucasian: Dargwa *q:arq:a* ‘stone’, etc.

< PEC **GörGV* ~ Basque **gogor̄* ‘hard’. In some examples, the vowel correspondences with DC are not consistent, and the semantics is somewhat loose, e.g. Bur *ḡul* ‘grudge, enmity’ is compared with Caucasian: Avar *ḡ^wel* ‘gossip, rumor; abuse’, Khinalug *qol* ‘offence’, etc. < PEC **Gwāltho* ~ PY **q0(?)r-* (*χ*) ‘angry’ ~ Basque **bVrhao* / **bVraho* ‘curse, blasphemy’ (a correspondence Bur *u* : DC *e* or *ā* or *o*?). Compare with the Indo-European etymology which is more robust and direct.: Bur *ḡul* ‘grudge, enmity’ (B 177) (in E-K 98: malice’). Can be correlated with IE **ḡhul-*, **ḡhuel-* : OSl *zъlv* ‘evil, malicious’, Gk *phalós* ‘bad, evil’.

In the Indo-European correspondences there are very few words with *q* or *qh* and these can be explained as a result of alternations in the Bur velar and uvular series as listed below, which are very important when reconstructing older forms. We give an overview of these alternations.

[1] Extensive variation of *g* and *ḡ*. Examples in reflexes of the Indo-European gutturals: Bur *gabí* : Ng *ḡabi* (B 164) (v.); Bur *d-óo-guḡ-* (NH) : *d-óo-ḡuḡin* (B 182-183) (v.); Bur *garra* (L 171) : *ḡareéγ* (B 171); Bur ; Bur Ng *giin* (L) (B in one example: *giinišo*) : Hz *ḡiin*, Ng *ḡain* (L 184) (B 175) (v.); Bur L Ng *gašil* (B *gašil* in ex.) : Hz *ḡašil* (L 182) (B 173) (v.); Bur Ng *gono* (L) : Ys *ḡonó*, Hz Ng *ḡunó* (L 186) (B 180); Bur Ng *guyañ* (L): Hz Ng *ḡuyañ*, Ys *ḡóyañ* (L 188) (B 183) and Bur *pfulgo* : *fulγu* (L 293) : Bur *phulḡúuy* (B 335); Bur Ng *gurtsas* (L) : Hz Ng *ḡurç-*

⁷ This section is a version of Čašule 2017: 7-14.

(L 174) (B 180-181) (v.); Bur Hz Ng *giltiras* : *γiltiras* (L 166, 184) : Bur *giltír-* (B 176) (v.).

Other examples: Bur *gupáltiñ* : Ys *ğupáltiñ* (B 161); Bur *gupás* : Ys *ğupás* (B 161); Bur *gindáwar* : Ng *ğindáwar* (B 176); Bur *sagám* : Ng *sagám* (B 371); Bur *del-dugúuyoxo* – derived by B (118) < *del* + *sugúuyoxo*; Bur ²*gareéy* : ²*ğareéy* (L 180) : ²*ğareéy* (B 171); Bur Ng pl. *gutents*, *gutimuts* (L 188) : *ğutí* (sg) (B 182); Bur Ng *gutum* (L) : Hz Ng *ğutúm* (L 188) (B 183); Bur *ga* : *γa* (L 155, 177) : Bur *ğa* (B 164); etc.

Morgenstierne (1945: 66) indicates that Nager tends to have *g* in place of Hunza *ğ*, and even conjectures whether *g* and *ğ* might have coalesced in Nager. He gives as examples (from Lorimer) of such alternation: *gakali* (in B 169, only with *ğ-* and *-q-* for *-k-*), *galis* (in B 167 only with *ğ*), *gamu* (in B 168 only with *ğ*) e.g. *gīn* (in B 175, only with *ğ*).

Also consider the comments by Lorimer (L 176): “Initial *γ-* [B *ğ*] was in some cases pronounced by Nazar [the informant] as *g-* and is sometimes similarly represented in Emily O. Lorimer's Nager records.” and “Initial *γ-* is by some in many cases pronounced *g-* (...) Medial *-γ-* is also sometimes similarly replaced” (L 155). Lorimer notes also an initial pronunciation of *γ-* as ^s*γ-* (L I XXVII and XXX). Often, L gives under one entry forms with *g-* and *γ* : e.g. under *γatenč* (L 177), but often differentiates clearly the dialects: Hz *yanđir* : Ng *gandar*, Hz *γar* : Ng *gar* (L 179) and the examples above.

The extensive variation and alternation between *g* and *ğ* (and their coalescence?) in Nager Burushaski, but also more generally, needs to be taken into account when carrying out the internal reconstruction and is particularly important in the analysis of the Burushaski correspondences with the Indo-European voiced gutturals.

[2] On the dialectal alternation *q* : *ğ* in intervocalic position (with examples), see Varma (1941: 141) and Morgenstierne (1945). Note in the anlaut: Bur *ğutó*, NH also *qutó* (B 174) (v.); Bur *ğirít -i-* ‘to swallow up, to devour’ (in Sh with *g-*): Ys *qerit* (LYs 200), *qirít* (BYs 172), *dağá-* ‘to hide, conceal oneself, take refuge’, part. *nutağá(n)*, and *-staqa-* Ng and *-stağa-* (B 109, of Indo-European origin, from IE **(s)teg-* ‘cover, hide’), also Berger correlates *-qhát* ‘mouth’ with *ğatán-* ‘to read’ (Berger 2008: 22).

[3] Alternations of *k*: *q* = *askúr* : *asqúr* (B 22); *gákali* : *gáqali* (B 169); *tóokur* : *tonqur* (B 447), *śukór* : *işqór* (B 398); *górkun* : *gúrquun* (B 181); Ys *muśák* : Hz Ng *muşéq* (B 296); *purká* : *phurqá* : *burká* : *burqá* (B 337); *đuakđuák ét-* : *đuaq -i-* (B 134); *gókuras* : Ys *góqares* (B 177); *káţar* : Ys also *qáţar* (T 3241) (B 243) (T-P 142); Ys (B) *muşkali* : (T-P 144) Ys *muşqali*; Ys *gólkos* : *gólqos* (Berger 2008: 3.27); Hz Ng *kíçatım* : Ys *qíçí* (< OInd *kṛṣi* (T 3448) (Berger 2008: 3.6); Ys *tuék* : Hz Ng *tubáq* and *tumáq* (B 431). Note also Berger (2008: 18.6) where he correlates the suffixes *-qiş* and *-kiş*, i.e. considers them as morphonological variants.

k > *q* = (in loanwords) Bur *qarúuyo*, which Berger derives from Skt lex. *karatu* (B 343); Bur *qanjaqá* : Sh *kanjaká* < Turk *kanjiga* (B 34); Bur *qap* < Turk *kap* (B 341); Bur *qapgá* : Sh *kapgá* < Turk *kapkan* (B 341); Bur *uçáq* < Turk *oçak* (B 453); Bur *qumá* : Khw *kumā* < Turk *koma*, *kuma* (B 346); Bur *quşqún* < Turk *kuşkun* (B 347); Bur *qurúm* < Wakhi *karum*, *kurum* (B 347); Bur *quáalo*, *qáalo* : Sh *kuǎǎlo* (T 2744); Bur *qulá* < Turk *kulan* (B 345).

In one loanword from Urdu, we have a change *q* > *k* : U *qāt* > Bur *kat* (B 243). In a number of cases, Sh has *k* for Bur *q*.

k : *kh* = Lorimer (225) indicates that he was unable himself to distinguish *k* and *kh* “with any certainty” and in many words gives the entry with *kh-* but has *k-* in all of the examples. Willson (79-81) in his vocabulary gives the entries with *kh* and *k* under one heading, the same with *q* and *qh* (Ibid: 96-98).

Examples: *d-şkir-* : *d-şkhir-* (B 255); *kíro* : *khirgá* (B 255); Bur Alt *kakát* : *khakhát* (B 142); Bur *d-kuţ-* : Ng *d-khuţ-*; (B 248-249); Bur *d-kaţ-* : *d-khaţ-* (B 243); Bur *n-karan* : *n-kharan* (B 252); *-kaçí-* : *-kháçí-* (B 239); *bakór* : *bakhór* (B 31); *d-şkaray-* : *d-şkharay-* (B 473); *-ikin-* : Ng *-khin-* (B 186); Ys *kha* : Ys *d-ka-* (B 253); *du-úkikin-* : *du-khikin-* (B 254); *gukór* : Ng *khukhór* (B 257); Ys *damkuţáh* : Ng *damkhootá*, Hz *damguţá* (B 113); Hz Ng *şikáar* : Ys *şikár* and *şikhár* from U *şikār* (B 394) (T-P 148).

k < *kh* = Bur *kayáas* < Sh *khayáas* (T 2877) (B 244); Bur *kaçáar* < Sh *khaçáar* (B 239); Bur *sukdúk -mán* < U *sukh-duk*, Sh *sukdúk* (B 384).

k > *kh* = (in some loanwords from Shina or Urdu) Bur *khaní* < Sh *kaná*, OInd *kañikā* (T 2665) (B 251); Ys *khamarbánd* (DC) < U *kamar band* (Berger 2008: 24); Bur *khanđálas* ~ U *kundal* (BB 24); Bur *kooşís* also *khoosís* < U *kōšiš* (B 256); Ys *khul* < U *kull* (Berger Ibid.); Bur *khun* < OInd *kōṇa* (T 3504) (Berger Ibid.); yet the more usual substitution in such loanwords is *k* > *k* : Bur *kamzoor* < U *kam-zōr* (B 241); Bur *kamará*

< U *kamrah* (B 241); Bur *kafšá* < U *kafš* (B 239); Bur *kaltíus* < U *kártūs* (B 240).

kh > : *qh* = Ys *khaṭ* : Hz Ng *qha* and *qhaṭ* (B 348) (v.) Ys *kham* : Hz Ng *qham* (B 351); Ys *khátmuš* : Hz Ng *qhátimuš*, Ng also *qhátmuš* (B 355); Ys *kheré* : Hz Ng *qhirii* (B 356); Bur *qhaám* : Sh *khaám*, U *khaddar* (B 348); Bur *qhaáp man'*, *qhap* : Sh *khaáp* (B 349); Bur *qhalqhál -i* : Sh *khalkhál th-* (B 350).

k, kh > : *qh* = *k* > *qh*, note Ys *kerék* 'a type of stone' : Hz/Ng *qhiréq* (B 356) (v.), *kurūn* (L), Ng *kōrōn* also *qhurónç* 'mist, cloud' (B 359) (v.) or e.g. in Bur *qhimišdóon*, *qhamišdóon*, *qhumušdáan* 'a vessel for baking bread' where the first part is a loanword from Pers *kumāj* 'Aschbrot' (B 356) or in Bur *qhap* 'tinder' a loanword from Turkic *kabū* according to B (351).

q : *qh* = Bur *áqal* : *áqhal* (from U 'aql) (B 19); *-qarát* : *-qharát* (B 342); *qáo* : *qháo* (B 341); Hz *qihíqhiñ* : Ng *qíqin* (B 356); Hz *-qu-* : Ng *-qhu-* (B 360); Hz *pháqar* : *pháqhar* (Berger 2008: 3.5); Bur *qis-* : *-qhis-* (Ibid, 3.9); *-qat* : *-qhat* (B 355); *qistá* : *qhistá*, Ng *gístá* (B 357).

Even though there are examples that justify a phonemic status for *k, kh, q* and *qh*, the great amount of variation and alternation and inconsistent phonological substitution and integration in loanwords, suggest an unstable system, in which *q, qh* and even *kh* (and aspirates in general) would have developed through language contact with Indo-Aryan and Persian (or a local substratum ?) and influenced the original Burushaski lexical stock. Berger (2008: 19) however, believes that the velar series: *kh, k, g* vs *qh, q, ġ* are of an older date, as none of Burushaski's close and more distant neighbours have the full series. These alternations should be taken into account in the reconstruction of the Burushaski lexemes.

Nevertheless, they could also be secondary internal historical developments, not necessarily of great antiquity, especially considering their low frequency. According to Berger's (B I: 2.54) statistics of 36 of his texts (and 8855 consonant tokens) (and such statistics need to be interpreted with caution), *q, qh, kh* and *ġ* are each found at a frequency of 1%, for a total of 4% of tokens, whereas *k* ranks at 5% and *g* at 2%. Moreover, very few of the lexemes with these phonemes, esp. with *q* and *qh* belong to the core, basic vocabulary. For example, in the relatively limited number of words with *qh-* and *q-* in Berger (1998), some 100 are loanwords and a few of the other words have an expressive component. Bearing in mind that the great majority of the Burushaski core,

non-periphrastic verbs (no longer productive) belong clearly to the autochthonous vocabulary, it is indicative that under *q-* we find only 2 such verbs and a small number of periphrastic constructions; under *qh-* there are only 7 core verbs.

2.4. The tripartite sibilant (and sibilant affricate contrast).

Our Indo-European material has almost no examples with the retroflex *ʃ*, and very limited correspondences with the palatal *ś* and none with *çh* or *j* or *z*, and only 2 with *j*. The Bur words with these consonants are foreign to the Indo-European comparisons and most certainly belong to the language(s) the Burushaski was in contact. The absence of these consonantal phonemes in our correspondences, considering the phonology of Indo-European, is to be expected, so we will not venture into an analysis of BB's examples.

In regard to the laminal *s* which is well represented in our comparisons, there is an alternation in Burushaski between *s* and *ç* and *çh* which is then reflected in the analysis. Consider for example: *-çhâmanum* : *-sâmanum* (B 73) (of IE origin); *çhil* : pl. *siliming* (of IE origin); Ng *samâriş* : Ys *çamâreş* (B 373); *d-çhulġu-* : *du-sulġu-* (B 79) (of IE origin); *çhurmâriş* : *surmâyiş* (B 80); *çhu* : in Ys *çu* and *sú* (B 79); *-sârk-2* : *çharkîn-* / *-çhârkîn-* (of IE origin) (B 375); *bicârş* : *bisârş* (B 50); *çakoó* : *sakoó* (B 68); *d-çâsal-* : *d--sasal-* (B 68); *karûsal* : Ng *gurûçal* (B 243); Hz Ng *haġûç* : Ys *haġós(t)* (B 185) (of IE origin); Ng *balâç* : Hz *balâs* (B 33) (of IE origin); Hz *burûç* : Hz Ng Ys *burûs* (B 64), *-dûmuç* : *-dûmuç* (B 125).

One consistent characteristic of the BB comparisons here is the big semantic latitude: e.g. Bur *-s* (prohibitively short for any viable etymology) 'heart, mind' is compared with developments in DC of 'soul, spirit', but also 'sky, cloud, fog', 'wind, sky', 'God, sky' (and with apparent unclear vowel correlations). And further there is Bur *-so* 'kidney', questionably enlarged with *-m* for Proto-Burushaski by BB (from the plural form *-somuç*). While not entirely impossible, the etymological equation is based on a very tentative possibility. The semantics is very loose again: the Bur word only means 'kidney', yet on the DC side (p. 32) we find developments like: 'sausage (made from a large intestine)', 'sinew, muscle', 'vein, nerve, root', none of which have anything to do with the concept of 'kidney'. An explanation with an *-m*

enlargement is also applied to Bur *śe* ‘wool’, where BB reconstruct questionably **śe[m]*.

There are other examples of semantic latitude: the Bur word for ‘elbow’ is correlated with DC words that mean ‘foreleg, paw’, ‘leg, calf, foot, paw’ (notably without a reconstructed form) even if one language (Udi) a similar word does denote ‘elbow’. Other problematic semantic comparisons: ‘mud’ with ‘mould’; ‘sorcery’ with ‘appearance, habit’; ‘blind’ with ‘darkness; black’, ‘wide’ with ‘high’; ‘a child’s penis’ with ‘clitoris’; ‘sun’ with ‘sky’; ‘flesh, meat’ with ‘liver’, ‘kidney’, ‘belly’ and ‘spleen’; ‘limbs’ with ‘shin-bone’ and ‘shoulder, upper back’ etc.

The extensive list of BB’s etymologies with the sibilants (pp. 33-35) involves for the most part cultural vocabulary. For example, in the long list of 39 examples (and not all of them will pass muster) there are only 4 verbs and very few entries from Swadesh’s 110 list. It may well be that a number of their examples with the sibilants suggest a Dene-Caucasian correlation, but these would be most likely borrowings into Burushaski and in that case it would be necessary to determine their actual source. It is very important that there is little to no overlap in this cultural vocabulary between the Indo-European and Dene Caucasian words.

2.5. The laryngeals

There is no mention by BB of the Burushaski laryngeals which are an important trait in spite of the fact that the only Čašule (2003) article they have consulted is mainly dedicated to them. I will just point out that there are over 80 words (see Čašule 2017a: 144-165) where there is a direct and precise correspondence between Bur and IE., including the colouring of the adjacent vowels.

PIE h_1-	>	Bur $h-$
PIE h_1e-	>	Bur $he-$
PIE $h_1\underline{u}er-$	>	Bur $har- : -war- : her-$
PIE h_2-	>	Bur $h-$
PIE h_2e-	>	Bur $ha-$
PIE $h_2\underline{u}e-$	>	Bur $-we- : -wa-$
PIE h_a-	>	Bur $h-$
PIE $h_ae- > h_aa-$	>	Bur $ha-$
PIE h_4-	>	Bur $h-$
PIE $h_4e- > h_4a-$	>	Bur $ha-$

PIE h_3-	>	Bur $h-$
PIE h_3e- > h_3o-	>	Bur $ho-$
PIE h_x-	>	Bur $h-$
PIE $h_{1/2}i-$	>	Bur $i-$

3. Morphology

3.1 Nouns

BB proceeds to the critique of the issues in noun morphology. They emphasise the class system of Burushaski and the parallels with Caucasian and Yeniseian which are significant.

Nevertheless the foundations of the system can be explained with a correlation with Indo-European.

Burushaski nouns are traditionally grouped in four classes: *h*-class ‘human beings’, subdivided in *m* (masc.) and *f* (fem.) (for case marking and verb agreement distinct in the singular but neutralised in the plural); *x*-class ‘non-human animate beings and individually conceived objects’; *y*-class ‘amorphous substances and abstract ideas’, and a *z*-form only used for counting.

At first sight it appears that there is a disparity between the four-gender system of Burushaski and the three-gender (< two-gender) system of Indo-European.

Nevertheless, in a recent seminal study which looks at the Romance languages, Albanian and Burushaski, Loporcaro and Paciaroni (2011) show convincingly that there are four-gender systems in a substantial part of the Romance language family: “...there indeed exist some IE languages which do possess four distinct genders, and hence display a system that, despite the many differences, has some points in common with that of Burushaski.” (Loporcaro and Paciaroni 2011: 391).

Most importantly, they include Albanian among these four-gender languages. Albanian, in addition to masculine and feminine, has two neuters, with a gender system as Loporcaro and Paciaroni (2011: 413 n. 22) argue comparable *inter alia* to that of the Romance languages and Burushaski. In Romance just as in Burushaski a distinction is made between inanimate countables and (singular) mass nouns, with similar idiosyncrasies. Bearing in mind the other correspondences between Burushaski and Albanian and the ancient and modern Balkan languages, this becomes highly significant.

As they (Loporcaro and Paciaroni 2011: 415) stress: “The existence of a semantic distinction between the two neuters makes our Romance four-gender systems more similar to the one of Burushaski (...)” They argue that the development was from an inherited three gender system, where the neuter split in two (Loporcaro and Paciaroni 2011: 421). Becoming four genders “can be a transitory step along the way towards becoming two.” (Loporcaro and Paciaroni 2011: 425).

They do not discuss the case endings which however correspond directly with Indo-European.

3.2. Case endings.

Berger (B I: 63) distinguishes in Burushaski general case endings (casus absolutus, genitive, ergative, dative-allative and general ablative) and a number of ‘specific’, composite and ‘petrified’ case endings.

In the Burushaski case system we find correspondences with the IE nom., gen., dat., and loc. endings, whereas the IE instrumental was the source for the Bur ablative, and the IE ablative was the source for Bur instrumental (which is not an uncommon development):

—IE Nom. sg. ending *zero* or *-is, -us* : Bur casus absolutus, and remnants of an ending *zero* or *-is/-es, -us, -as* : Bur *meénis* ‘female sheep over one year old which has not had young’; Bur *huyés* ‘small cattle (sheep and goats)’ (Ys also: *huís*); Ys *-hútes*, Hz Ng *-úť* and *-úťis* ‘foot, lower leg’ (this example shows both outcomes); *bélis*, Ys *béles* ‘ewe (which has had young)’; Bur *-yáťis*, (L) *-yéťis*, Ys *-yáťes* ‘head’; Ys *turmúkuťes* ‘long insect’; Ys *-yúnus* ‘tongue’; Bur *-móqış* (Hz), *-móquş* (Ng) ‘cheek’, *-móqış* (Ys) ‘face’ (< **-irs* or **-urs*); *barıs* ‘artery’; *-khúkhusus* ‘short lower rib’ (< IE **(s)ker-* ‘twist, bend’ : Lith *kr(i)áuklas* ‘rib’); Bur Ys *-núnus*, Hz Ng *-dúmus* ‘knee, hock’; *hagúc* (Ys *hagós*) ‘pass, mountain-pass’; *-úlus*, Ys *-húles*, *-húlus* ‘brother’; *dağánus* ‘pig’; *karkós* ‘young sapling’; *khándas* ‘a tick’; *-wáldas* ‘the back (anat.)’ (B 465) (< IE **plet-* ‘back, shoulders’); Ys *dúlas* ‘boy, young lad’; Ys *mátas* ‘beam’; Bur *dúrgas* ‘ghost of the deceased’; *úrunas* ‘morning star, Venus’; *túranas* ‘a kind of large black beetle’; Bur *hurúginas* ‘wave, stream, whirlpool’, Bur *phanıs* ‘chopping block’ (from IE **sph_aen-* ‘flat-shaped piece of wood’): etc (all of IE origin).

—IE gen. sg. *-es* > Bur gen. and erg. (except for *hf* sg.) *-e* (B I: 63).

—IE dat. sg. *-ei* > Bur Ys dat *-a* (T-P 23), in Hz *-a-r*, Ng *-a-r(e)* (B I: 63), with the *-r-* possibly from the Bur verb *-r-* ‘send, dispatch away

from the speaker' (B 361) (Will 50), used also in periphrastic verbal constructions.

—IE instr. *-mi* (as in Sl *каменьтъ* 'stone' (inst. sg.) and the Arm inst. sg. ending *-amb* (Beekes 1995: 114-115) > Bur abl. *-um*, *-m* / *-mo* (the latter used to form possessive adjectives) (B I: 63).

—IE abl. *-ed/-od* > Bur instr. adess. *-ate* 'on, with' (composite ending: *-a-te* (B I:63) (T-P 23). Compare with Hittite where the ablative in *-ti* took over the functions of the instrumental (Fortson 2004: 163) < IE abl. *-ed* or *-et* / *-od*. In Watkins (1998: 66) the ablative thematic nominal ending is given as *-ōt* < *-o-h₂at* (e.g. OLat *gnaivōd*).

—IE loc. sg. *-i* > Bur loc. (specific ending) *-i* (B I: 63).

The Bur abl. postp. *-čum* also *-čimo* 'from' (B 70) can be compared with PSI **sūnū* 'with; of, from', OPruss *sen* 'with', Arm *ham-* 'with' (IEW 904), i.e. ultimately from IE **sem-s* ~ **sem* ~ **sm-ih₂-* 'united as one, one together', from which we have Bur *-čhámanum* (L 47 *isamanum*) (B 73) Hz Ng 'first-born'. The Bur form is from a zero-grade form **sμη-* and in Bur *μη-* > *-um*, *-am*. The Burushaski case ending *-če*, *-či* 'on, after' (Sh *isí*, *ičhí* 'after it') (B 70) could well be an apocopated form of the same stem.

We have also analysed and correlated with the case system of IE the more than 30 Bur plural endings (Čašule 2017: 51-53) which contain petrified IE plural case forms.⁸

⁸ The numerous Burushaski plural suffixes (Berger I: 57) reveal a very complex system (from Čašule 2017a: 51-53).

h-plural : *-tiñ*; *-aro*, *-taro*, *-daro*, *-čaro*

hx-plural: *-o*, *-išo*, *-ko*, *-iko*, Ng. *-yáko*; *-juko*; *-óño*; *-ú*, *-úu*; *-č*, *-uč*; *-nč*, *-anč*, *-inč*, *-ianč*, *-muč*, *-umuč*, *-énc*, *-ónč*.

y-plural: *n* : *-ñ*, *-añ*, *-iñ*, *-iañ*; *-miñ*; *-éñ*, *-oñ*, *-ón-o*; *-čiñ*, Ng *-čan*, *-ičiñ*, Ng *-ičañ*; *-mičiñ*, Ng *-mičan*

We will attempt to give a coherent explanation of this array of endings.

h and *x* plurals. The pl. forms: *-nč*, *-anč*, *-inč*, *-ianč* and also *-énc* and *-ónč*, may derive from the IE accus. pl. (non-neuter) *-ns*. The vowels preceding *-nč* would be a remnant of the IE stems, e.g. IE **eh₂ns* (old *ā* stems) > Bur *-anč*, IE *-ns* (pure consonantal stems) > Bur *-nč*, IE *i*-stems **-ins* > Bur *-inč*, IE *o*-stems **-ons* > Bur *-ónč*, IE **-ih₂* (accus. neuter of *i*-stems) + **-ns* > Bur *-ianč* and Bur *-énc* possibly retaining a trace of the *h₁*-stems (Beekes 1995: 170-193) (Baldi 1999: 310). The Bur plural ending *-č*, *-uč* could be a remnant of the nom. pl. case forms. The plurals *-aro*, *-taro*, *-daro*, *-čaro* have transferred the IE patronymic suffix **-ter* to the plural.

The Bur pl. endings *-muč*, *-umuč* could contain the IE ablative/dative pl. suffix **-b^hos*, **-mos*, or the instr. pl. *-mi*. The *-u* in *-umuč* parallels directly the pl. forms of the *-u* stems, i.e. IE *-umos*.

3.3. Personal pronouns

BB state that the Bur pronouns “show most clearly the deep incompatibility of Bur and IE” (p. 44).

This is not a correct statement but an oversimplification, as the phonemic correspondences are not “violated”. Let us look at our analyses.

1.p. sg.

Bur Hz Ng *je*, Ys *ja*⁹ ‘I’. Berger (2008: 48, 68) states that Hz Ng *je* is secondary, as a result of palatalisation, and that *ja* is the oldest form (found in the oblique cases).

It can be correlated with IE **h₁eǵ-* (emphatic: **h₁eǵóm*) ‘I’ (M-A 454).

Zarubin (1927: 314) considered the Burushaski pronoun imported from Wakhi *žo* (*žu*), also Ishkashmi *azi*, *az*. However, as first person pronouns are seldom borrowed, it is most likely an independent development.

Note that in Burushaski there is an alternation *g-:y-* in the anlaut, which Morgenstierne (1945: 79-81), also Berger (e.g. B 150: Hz Ng *gaş* ‘price’ : Ys *garç* also *yarç* < **i-garş* (*i-* is the pronominal prefix) trace to

The Bur plural suffixes ending in *-o* : *-o*, *-iśo*, *-ko* and *-iko* could be a remnant of the *o*-stems. Berger (I 49) indicates that nouns ending in *-s*, *-ĉ* or *-n* + *-o* > *-ś*, *-ĉ* and *-y*, which may point to a former suffix **io*, where *-i-* would be a remnant of the old sg. cases, e.g. the IE gen. sg. ending *-ī* of the *o*-stems.

In the Bur pl. ending *-iśo* could be a remnant of the loc. pl. of the *i*-stems (IE **isu*), with *u* : *o* and under the influence of the other related suffixes or with the *-is-* from the singular form.

In the cases of *-ko* and *-iko* we suggest that the suffix *-ko* was reinterpreted as a plural suffix, i.e. the original singular derivational suffix was understood as a plural formation (similar to the process in the suffix *-taro* < *-tar* from the sg. form + the pl. marker *-o*).

The Bur ending *-ú*, *-úu* may be a remnant of the IE *u*-stems, e.g. the IE nom. neuter **-uh₂-*.

For the *y*-plural, see Čašule (2017a: 51-53).

The underlying supposition is that the IE system was reanalysed and applied to a different subcategorisation of nouns and through language shift, i.e. one of the languages in contact being agglutinative, the case value of the plural endings was obliterated and the IE singular case endings were generalized and added to the plural ones.

⁹ The Burushaski simplified form brings to mind similar processes in IE: Itl *io*, Spn *yo* (dial. also *žo*, *gio*), Frn *je*, Port *eu*, Srb, Croat and Mcd dial. Cz, Slk, USorb, LSorb, Pl, Ukr, Byruss, Russ *ja* [“The loss of final *-zъ* is explained by sandhi or high frequency of the pronoun” (Orel IV: 286, who notes that the details of the Indo-European reconstruction of the Slavic pronoun (the velar and the auslaut) are dubious).

an earlier **i-g-* > **y-g-* > *y-*. And further: Bur Ys *-yánji* < **gán-éi* (B 472), *-yámi* < **gámi-* (B 471) (see Berger 2008: 3.16).

The Burushaski pronoun under this proposal could be explained from IE **(h₁)eǵoh₂-* : [*(h₁)e-* > *i-* : *e-*; *-ǵ-* > *g*; *oh₂* > *a*] > **ig-a* > **yga* > **ya* > *ja-*, perhaps influenced by the languages mentioned above. Refer further to the alternation *j* : *y* in Ys *jaǵá*, Hz Ng *-yaǵá* (B 470), Hz Ng *jóŋis* : Ys *yóŋes* (B 228), *ǵajámišo* : *ǵayámišo* (B 166), *jú-* : *d-y(a)-* ‘to come’ (of IE origin), or Bur *yaǵhú* < Turk *jakki* (B 472), which illustrates a probable change *y* > *j*. Berger (2008: 4.15) gives also Ys *ten-jó* < **ten-yo*, *dan-jó* < **dan-yó* etc.

The pronominal prefix for 1 p. sg. is *a- / á- / áa-* (Berger I:6.40) (B 9), which Berger (2008: 9.1) believes to derive from *ja-* with a loss of *j-*. We suggest that the *a-* is the result of the loss of the posited intermediate *y-*, i.e. before the change *y-* > *j-*.¹⁰¹¹

Second person singular.

We agree that our analysis of the 2. p. sg. pron. can be seen as objectionable (yet see the revised etymology in Čašule 2017: 35-36). Consider however further the Bur forms *thi* ‘other; -else; other than’ and esp. the derivative *thum* ‘other, another’ (basically a 3rd p. sg. context and meaning) which correspond directly with Sihler’s (1995) reconstruction for the IE 2nd p. sg., i.e. with IE **ti/ī* (*tu/ū*). We correlate them with Bur *un*, *uñ*, *um* ‘you (sg.)’, positing loss of the initial *t(h)-* through disambiguation (‘other-you’ : ‘other-3rd person’) and possibly because of the high frequency of the pronoun or sandhi. Note that *t-* is a marker of 3rd p. as in Ys *te*, *ot* ‘that one, it’. The Bur pronoun corresponds with IE **tuh_xom* (emphatic form of **tuh_x* ‘you sg.’ (M-A 455) (Schmidt 1978: **tu-H-om*).

Plural pronoun forms.

First person plural.

The pronoun: *mi* ‘we’ (gen.-erg *míi*; dat. (reduplicated) *mímar*, abl. *míicum*) and the pronominal prefix *mi-* / *mí-* / *mé-* / *mée-* (B 286) can be correlated directly within Indo-European with Arm *mek’*, Blt-Sl **mes* e.g. OPrus *mes*, Lith *mės* and PSI **my* ‘we’ < IE **me-* (G 407) (Fortson 2004:

¹⁰ It is not at all clear how BB derive **a-* from **ya-*.

¹¹ Note in this respect the exact parallel with Slavic, i.e. OChSl *azъ* : PSlav **ja(z)ъ* ‘I’.

127) (possibly in both cases from an older Nostratic **mä* < **mi* ‘I’ (Gluhak 407-408) (see also Čašule 2017: 195 and Chapter 1. (2.3). The Burushaski pronominal prefix *mi-* / *mí-* / *mé-* / *mée-* signals that the forms with *-e-* are older (and from *mée-* > *mi*) and could go back to **mes*.¹²

Bur *mi* ‘we’ and the pronominal prefix *mi-* / *mí-* / *mé-* / *mée-* can be correlated directly within Indo-European with Arm *mek'*, Blt-Sl **mes* e.g. OPrus *mes*, Lith *mēs* and PSI **my* (Fortson 2004: 127) for which there is a variety of explanations. (For the IE 1 p. pl. reconstruction, note Szemerényi 1996: 8.4.3: **uei-* and **ns-me-s*; GI 254: IE **mes-* alongside with **uei-* – also in Schmidt (1978), with **uei-* considered younger. In Katz (1998), 1. p. pl. **uěy(e)s*, **mes*.)

The correspondence with Indo-European is direct.

Second person plural.

Bur *ma*, Ys also *wa* (Tiffou 2014: 323), which is most probably the older form and the pronominal prefix *ma-* / *má-* / *máa-* can be correlated with IE **uos*, the enclitic and oblique form of **iuh_{vs}* ‘ye’, (Schmidt 1978: nom. **yu-H-s*, obl. stem **wos-*) (Meier-Brügger 2002: accus. **us-mé*, **wos*) (GI 254 give for the 2. p. nom. pl. only **wōs*) (e.g. Lat *vōs* ‘ye, you’, PSI **vy* ‘ye, you’, OPruss *wans* ‘you’) (M-A 455).

Bur *m-* would be under the influence of 1. p. pl. or of the accusative. In Bur *wo* > *wa*, and no Burushaski word has *wo-* in the anlaut. Note also Bur *mawé* ‘you pl.’ (B 284), which could be a reduplicated form, containing the “nucleus **we-*” (Szemerényi 1996: 217).

3.4. Interrogative pronouns

While it appears at first sight that the “**mV-* interrogative is much more richly attested in DC than in IE” (p. 47), the fact that in IE it is found in Anatolian, Tocharian and Celtic indicates it is archaic and not peripheral. Furthermore in the correspondence with Burushaski, the vowels also match, whereas for DC the generic *V* is used.

Berger states that all Burushaski interrogative/relative pronouns are derived from the stems *me-*, *be-* or *ami-* and indicates that these are

¹² In regard to the loss of the final *-s*, consider Edel’man’s (1997: 207) careful analysis of the phonological make up of the case and other grammatical endings – she notes the severe restrictions in the consonantism of the clitics and the affixes.

most probably of identical origin, noting the *m* : *b* alternation in Burushaski (B I: 82, f30). For example: Bur *men* sg. and *h* pl., also *ménik* pl. ‘who?, what?; someone, anyone’. *men ke* is used as an indefinite relative pronoun, also in the meaning of ‘many’ (B 286) or Hz Ng *be* ‘what?, how?; some, any’, Ys *bo* (B 46) (note the dialectal *e* : *o* variation). Also *ámin* hmf, *ámis* x, *ámit* ‘which, who’, interrogative, relative and indefinite pronoun (Ys with *-e-* in the inlaut: e.g. *ámen*, *ámes* etc. – note the dialectal variation *-e-* : *-i-*). From all the forms and the dialectal variation it follows that the Bur forms go back to **me-* or **mi-* as in Indo-European, which is not the case with DC. Note also the correlation with a suffix *-n* in Burushaski and Hittite.

The Indo-European interrogative/relative pronoun is **me-*, **mo-* or actually within Nostratic **mi-*, **me-* (Bomhard, Kerns 1994: 524) : e.g. TochA *mäkte* ‘how’, *mänt* ‘how’, *mäksu* ‘who’ (interrogative, relative), Hitt *mān* ‘whether, when’, *masi* ‘how much, how many’, OIr *mā* ‘when’, which M-A (457) consider “a very likely candidate for PIE status”. Importantly, according to Bomhard and Kerns’s IE and Nostratic reconstruction (1994: 524) the correspondence with Burushaski is exact.

3.5. Demonstratives

We outline first the basic distal demonstratives together with their direct and full derivation from Indo-European. In Table 1. we summarise the remarkable correspondences between the Indo-European and Burushaski demonstrative pronouns.

DEMONSTRATIVE PRONOUNS	
<u>Indo-European</u>	<u>Burushaski</u>
	<i>Distal Singular</i>
<i>*i-</i> / <i>*e-</i> dem. and pers. pron.	<i>i- / í- / é- / ée-</i> pron. prefix, 3 p. sg. <i>hmxy</i> .
<i>*i-</i> + <i>*eno-</i> or <i>*i-</i> + <i>*ne-</i>	<i>iné</i> , <i>in</i> , Ys <i>in</i> , <i>ne</i> ‘that one; he, she, it’ (<i>h</i>)
<i>*is-(e)</i> ‘it’	<i>isé</i> , <i>es</i> , Ys <i>se</i> , <i>os</i> ‘that one, it’
(x) <i>*id-</i> or <i>*it-(e)</i> ‘it’	<i>ité</i> , <i>et</i> , Ys <i>te</i> , <i>ot</i> y sg
‘that one, it’ (<i>y</i>)	

	<i>Plural</i>
* <i>ay-</i> , * <i>u-</i> , * <i>ye-</i> ‘that, other’	<i>ué, u</i> ‘they, those, those people, the’ (<i>h</i>)
* <i>is-(e)</i> ‘it’ or * <i>it-se</i>	<i>icé, ec, Ys cé, oc</i> ‘those’ (<i>x</i>)
* <i>(i)-ge</i> assev. emph. part.	<i>iké, ek, Ys ke, ok (y)</i> ‘those’
	<i>Proximate</i>
* <i>kó-</i> , * <i>kí-</i> ‘this one’	<i>kho-</i> or <i>kh(i)-</i> ‘this one’ added to all distal pron.

Table 1. The correlation of the Indo-European and Burushaski demonstrative pronouns. And further, the correspondences in the demonstrative adverbs:

<u>Indo-European</u>	<u>Burushaski</u>
	<i>Distal</i>
* <i>tó(r)-</i> , * <i>tē(r)</i> ‘there’ + * <i>-le</i> dist. part.	<i>teéle, toóle, Ys to, tóle</i> ‘there’ <i>-le</i> also in <i>khóle</i> ‘here’, <i>éle</i> ‘there’, <i>itéle</i> ‘there’ <i>tóorum</i> (Ys <i>taúrum</i>) ‘that much, so much’
* <i>t-ali</i> ‘such, of that sort’	<i>taíl</i> ‘as it is, such, so’ and <i>-tali</i> adv. ending
* <i>tam-</i> ‘so much’ < * <i>to-</i>	<i>tané</i> ‘equal to, as big as, as much as’ <i>tam-</i> , <i>tan-</i> intensifier <i>éle</i> or <i>eléi</i> or <i>aléi</i> ‘there’ <i>itéle</i> ‘there’
* <i>e-</i> + * <i>-le</i>	<i>íti, it</i> ‘that side of; relating to this, of this kind’
* <i>it-</i> + <i>éle</i>	
* <i>h₁ith_a-</i> ‘thus’	
	<i>Proximate</i>
* <i>kó-</i> + * <i>-le</i>	<i>khóle</i> ‘here’
* <i>kí-</i> + * <i>h₁ith_a-</i>	<i>khi+iti</i> = <i>khíti</i> ‘on this side, here’, <i>khít ne</i> ‘here’.
* <i>ei-</i> ‘this’	<i>akhíl</i> ‘like this’ [<i>< a + khi + l(e)</i>] <i>akhóle</i>
* <i>do-</i> + * <i>ei-</i>	<i>dakhíl</i> ‘like this’
* <i>dā</i>	<i>da, dáa</i> ‘again, also, and’ and d-verbal prefix

Table 2. Summary of the correlation of the Burushaski demonstrative adverbs with Indo-European. For a detailed analysis of the correspondences of the complete systems, see Čašule (2012) or (2017: 39-46).

3.6. Postpositions

Note the significant correspondence in the Burushaski postpositions with Indo-European.

—1. Bur Ys *khaṭ* Hz Ng *qhaṭ* (in L 239, also *kat*) ‘down’ (B 348) and 2. the postposition *-káat*, and adverb *káat*, (in LYs 155, also *-kāt* and *-khāṭ*) ‘with, along with’ (B 238) from PIE **kat-h₂e* ‘down, with’ (Hitt *katta* ‘down, with, by, under’) (M-A 169).

—IE **ko(m)* ‘with, side by side’ (M-A 646), in IEW (515, 612-613) **kom*, **kā*, **kǎ*, eg. OIr *com*, Lat *cum* ‘with’, OEng *ge-* verbal prefix, PSI **k_b* ‘toward’, Gk *koinós* ‘together, in common’, OInd *kam* ‘toward’. Old in IE. Compare with *káa* ‘with’, “postposition preceded by the genitive or general oblique case of the noun. It may be used with the prefixal forms of the pronouns.” (B 237) (L 225-226).

—Bur abl. postp. *-ćum* also *-ćimo* ‘from’ (B 70) can be compared with PSI **sūnū* ‘with; of, from’ (IEW 904), i.e. ultimately from IE **sem-s* ~ **sem* ~ **sm-ih_a* ‘united as one, one together’.

3.7. Verb

BB touch on the verb very briefly and they essentially discuss only the verb template, so we will not dwell on this aspect very much. See the elaboration in Čašule (2017: 56-58).

I would like to however present the close agreement of all the Burushaski non-finite verbal forms with Indo-European, as well as in the verbal affixation.

3.7.1 Verbal prefixes

—IE *-s-* mobile in verbs (considered by some to be of causative origin) : Bur *-s-* verbal (causative or semantically empty) prefix: Bur *d-karan-*, *d-skaran-* ‘surround’ (B 242) < IE **(s)ker-* ‘turn, bend’ (‘ring, curve, circle, surround, encircle’).

—IE **do-* (demonstrative stem) (e.g. Sl *da* ‘and; in order to, yes’, and verbal prefix *do-* ‘up to, towards the speaker’) : Bur verbal prefix *d-* used to form secondary intransitives (B 108) or action directed towards the speaker (e.g. in verbs like ‘come’, ‘bring’ etc.) (analogous to the semantics of the Slavic prefix), which is linked with Bur *dáa* ‘again, and,

also, moreover; another, other' (Will 33) (B 108), and the *d-* in *dakhil* 'like this, thus', an alternative form of *akhil* 'same' (B 110).

—IE **an⁴*, **ana*, **anu*, **ano*, **no* preposition 'on' (OEng *an*, *on*, *a* 'on' and prefixed **on-*), OChSl *na* 'on, at', [in Slavic also a productive verbal prefix] also the Lith verbal prefix *nu-* (IEW 39-40) : Bur *n-*, *nu-*, *ni-* verbal prefix to form absolutive verbal forms (which also indicate the completion of an action) from verbs that do not have the *d-* prefix (B 298).

3.7.2. Verbal suffixes

—IE *-iō-* formations, the most important productive present suffix of late Indo-European.

—Bur present stem involves yodation or palatalisation of the consonants of the past tense stem (with a formative **-y-*, see Morgenstierne (L: I.XX)).

—IE **-n-* and **-nu-*, a verbal suffix marking present tense, usually transitive, as in **mi-nu-* 'to reduce' (Wat 59). Szemerényi (271) indicates that originally only *-n-* or *-ne-* was the formative element and developed into *-nā-* and *-neu-*.

—Bur suffix *-n-* / *-an-* / *-in-* does not have a particular function and we find verbal forms with and without it – e.g. *-múruṭ-* : *-múruṭin-* 'cut' (B I:212).

—IE verbal *-sk-* formations are productive in some IE languages, whereas in others there are only traces of them. Szemerényi (273) considers *-sk-* to consist of two elements *s* + *k*. It had an inchoative function in Latin, whereas in Hittite it had an iterative, durative or distributive meaning, and in TocharianB it developed a causative sense : apparently all from a basic iterative-durative sense (iterative-intensive – Ramat; causative-intensive – Couvreur, apud Szemerényi 273-4.).

—Bur *-eés* [with a change *-sk-* > *-ks-* > *ś* in Burushaski is a widespread suffix for deriving abstract nouns, mainly used in periphrastic verbal forms: *śuray-eés* 'happiness, enjoyment' also used as an adjective, without a basic form (L 335) (B I:211); *balan-eés man-* 'to writhe, wallow' used along with *balán man-* (L 67). The forms with this suffix are most productive in compound verbal constructions, where the abstract noun is not used independently: *darés-* *-i-* 'to endure, hold out' (BYs 141).

—Bur verbal (causative) suffix *-ia-* continues the IE causative *-eīo-* see e.g. *balúuyas* (B 35), *bišaiyas* (L 83), *bisháyas* (Will 24) or *duróoyas* (B 126).

3.7.3. Non-finite verbal forms

All the Burushaski non-finite verbal forms correlate with Indo-European.

3.7.3.1. Infinitive

The Bur infinitive ends in *-as* (B I: 12.16) and can be compared to Lat *-re* < **-se* or **si*, also found in Vedic abstract nouns in *-(a)s* (Szemerényi 325).

3.7.3.2. Participles and gerunds

—IE deverbative-adjectival ending **-no* (> participle in Sl) : Bur past (absolute) participle in *-in/-n/-nin* (B I: 12.13-12.14).

—IE desiderative in *-s-* which formed the base of the present tense in *-se/o* and developed into the bases of the present tense in **sġe/o* or **si* (e.g. Lat *laccio*) : Bur gerund II in *-ś*, *-V-ś* (E-K 1970:70) used with a desiderative meaning (*sġ* > *ś*).

—IE adjectival compound suffix **-enko-*, **-ŋko-* > *-um* (the main adj. suffix in Bur), derived historically by Berger from *-uñ* > e.g. *burúm* ‘white’ etc. (B I: 5.1), which is also used in the *m*-participle (B I: 143) (‘static participle’): *étum* ‘done’, *mánum* ‘become’ (L 108) (a development analogous to the Germanic one in Indo-European).

Especially important is an indicative shared development from IE **mŋ-*, **men-* ‘remain, stay’ (> ‘be, become’) (IEW 729) : Bur *man-* ‘be, become, turn into; become (absolute) > come into existence, occur, take place; belong to; proceed to, be about to; be necessary to do s-thing or for s-thing to be done’ (B 278). For the relevance of the Indo-European middle passive for the understanding of the development of the Burushaski verbal system note further the very productive use of Bur verb *man-*, also used in forming periphrastic verbal constructions (B 278) in compound verbs, in the sense ‘become’, ‘be’ (or sometimes semantically empty) + another stem, e.g. *hop -mán-* ‘be puffed up, (of body parts) swell up suddenly’, *lam, lálam man-* ‘shine, burn, light up; to beam’ (B 261), *háak man-* ‘help s-one in their work’ (B 184). While this is a widespread pattern and structure in the languages surrounding Burushaski (Bashir p.c.), it seems to point also *materially* to the functions of the IE suffix *-meno-* or *-mno-* in the passive middle, e.g. Gk *epómenos* ‘following’, Phrg *gegrimenos* ‘written’ (Diakonoff-Neroznak 1985: 111), which has

also been derived from the same IE **men-* ‘remain’ (Szemerényi 1996: 320-321) and is a shared innovation in Greek and Phrygian.

Note also the verbal augment, found in the Bur verb *ét-* (B I: 19.36), in IE **e-* also in Phrygian, Greek, Sanskrit (the augment is *a-*) and Classical Armenian.

3.8. Numerals

BB label my comparisons of the Bur numerals as “ingenious” (p. 48). The numeral system of Bur is very complex and we can only discuss here the IE etymologies of ‘one’, ‘two’, ‘six’ and ‘nine’. For the other numerals, refer to Čašule (2009b).

[Number 1] Bur Ys *hen*, Hz Ng *hin h*, *han xy*, Ys *hek*, Hz Ng *hik z* ‘one’ (B 199) (the form *hun* in Hayward (18) is erroneous, and not accepted by Berger). Berger (B 198) correlates *hik*, *hek* with IA (T 2462), i.e. with *hekh* ‘one’ Kohistānī dialect of Shina (with an ‘emphatic’ *h-*) (Berger 1992: 245), from OInd *éka* ‘one’, but considers the forms in *-n* autochthonous.

There is a straightforward correlation with IE **h₁oi-no-s* [IEW 281-6 (**oi-nos*); Wat 59 (**oi-no-*)] < **e-/*o-* deictic pronoun [IEW 281-6 (**e-*, **ei-*, **i-*)] + particle *-no-* (Celtic, Italic, Germanic, Baltic, Slavic, Albanian) (M-A 398-9). Thus we would have: **h₁e-no-* > Bur *hen* : *hin* < **h₁i-no-* and **h₁oi-no* > Bur *han*. Also the Bur postp. indef. article *-an*, Ys *-en h*, *-an xy* (B 18).

All the Burushaski forms are accounted for and the phonematic correspondences are direct and consistent.

[Number 2]

Bur *altó yz* Ys (Zarubin) *haltó*, *altán h*, *altá*, *altác x* (Berger 2008: 10.4) can be derived from IE **h₂elio-* ‘second’, e.g. Gaulish *allos* ‘second’ (Beekes 1995: 216), Lat *alter* ‘other of two’ from IE **h₂élios* ‘other’ < **h₂ol-* ‘beyond; from that side’ (Wat 2-3). From this root Bur has *hóle*, *hólo* ‘out, out of’ and *hólum* ‘outside, other, foreign, strange’ (B 201-202).

-t- would be from the IE suffix **-to*, used in the forms of the ordinal numbers (in Burushaski also an adjectival suffix as in IE), also found in Bur *huntí* ‘nine’, *wálti* ‘four’, Ys *biśindu*, Hz Ng *miśindo* ‘six’ (*-nd-* < *-nt-*) and *čhundó*, *čhundí* ‘five’ (for the rather complex and tentative correlation of this last numeral with IE, see Čašule (2009b: 171-173). In Slavic many of the numerals derive from ordinal forms, ‘5’ = **pęť* < **penk^w-to-s* (also 6 and 9) which addresses the concern of BB that

we are dealing with a cardinal number. Berger (2008: 77), apart from IE, also suggests that in the Burushaski numerals we have a suffix *-to*.

BB again using their erroneous treatment of *-lt-* come to unsubstantiated conclusions.

[Number 6]

—IE **sueks-*, **seks*, **kseks* and directly relevant for Burushaski: **ueks-* (: **uks-*) ‘six’ (the latter forms, without *s-*, are considered to be the original ones, with the *s-* of ‘seven’ taken over (Beekes 1995: 213) : Bur Ys *biśindu*, Hz Ng *miśindo hxy*, Ys *biśinde*, Hz Ng *miśindi z* ‘six’ (B 289) (*-Vndo* is a suffix: *balándo* ‘strong’ (B 33), or *bargúndo* ‘yeast, leavened dough or bread’ (B 30) or *jiindo* ‘living’ (B 226). In Bur *ks* > *s* and *u-* > *b-* : *m-* and *e* > *e*.

[Number 9]

Bur *huntí*, Ys *hutí z*, *hunćó*, Ys *hućó hxy* ‘nine’ (B 205) derives from IE **h₁nun̥-to* as e.g. in the Greek form *énatos* ‘ninth’ from **h₁néun̥* ‘nine’ (dissimilation of *n*) found throughout IE (Beekes 1995: 216).

As with number [2] we have in *-t-* the outcome of IE **-to*, same as in OSi *devetb* ‘nine’ (with *d* dissimilated from *n*). Berger (2008: 79) and BB suggest that Bur *huntí* should be interpreted as ‘one from ten’. This is problematic as the Bur word for ‘one’ is not *hun* (Berger does not accept the erroneous Hayward form, and posits a change *hin* > **hun*) and it is impossible to trace *-ti* to *toórum* ‘ten’.

3.9. Adjectives

There is no mention of the adjectives in BB’s criticism. Almost all of the adjectival suffixes correspond with IE: —IE relational adj. suffix *-iō-*, *-iō-* ‘of or belonging to’ (Wat 103) :

Bur suffix *-yo* and *-yō* e.g. *huyóo* ‘wool-bearing animal, sheep’ < *huyés* ‘small cattle (sheep and goats)’ and further *mámayo* ‘endearing term for ‘mother’ < *máma*, *mámo* ‘mother’, *karóoyo* ‘with curved horns’.

—IE suffix *-ko(s)*, secondary suffix, forming adjectives : Gk *Libu-kós* ‘Libyan’ :

Bur suffix *-ko*, also *-kus*, e.g. *datú* ‘autumn’, *datú-ko* adj. ‘autumn-’, *datú-kus* ‘autumn season’, *bái* ‘winter’ (noun) > *bái-kus* ‘winter-’ (adj.) (< IE **-ko-s*: Lat *-icus*) (B I: 207); Bur *phúko* adj. ‘small, tiny’ (B 334) < IE **pau-kos* ‘little, few; small’. Also the nominal suffix *-k*.

—IE *-isko* composite suffix related to the previous example, ‘to indicate affiliation or place of origin’ or rather IE **-i-sk* ‘formant of adjectives and

noun diminutives' (Illič-Svityč 1976 I : 204, who indicates that the *-i-* is probably from the *i-* stems, a continuant from many old root stems), in Watkins (36) IE **-isko*, compound adj. suffix, forming relative adjectives, denoting origin in Slavic, and Baltic, found also in Germanic and Thracian : OHG *diut-isc* 'pertaining to the (common people)', OChSl *ръм-ьскѣ* 'Roman' (Fortson 121):

Bur suffixes *-iski*, Ng *-áaski*, also *-ki* (B I 249) with the same function: *Burúšín* 'Burusho' : *Burúšaski* (B 491), *hir* 'man', Ys *huríski* 'of men, men's' and with a diminutive meaning Bur *-ísk*, NH Bur *-sko*, Ys *-ís* 'young (of animals), young one', e.g. *buś isk* 'kitten' < *buś* 'cat' with the force of a diminutive.

—IE **-en-* suffix forming nouns and adjectives (with many variants) (Wat 23):

Bur *-(e)n*: Bur *meén* 'old' (B 285) < IE **meh₁(i)-* 'grow', Bur *gén* 'thief' < *gě-* Ys 'steal' (B 175).

—IE adjectival compound suffix **-enko-*, **-ŋko-* :

Bur *-um* (main adj. suffix), derived historically by Berger < *-un* > e.g. *burúm* 'white', *dağánum* 'thick' (B I: 5.1), also used as a participial ending.

—IE **(o)lo-*, secondary suffix forming diminutives (in Latin in various adj. suffixes) :

Bur nom. and adj. suffix *-lo* : Bur *čhar-eélo* 'climber' from *čhar* 'stone', *đakaálo* 'blacksmith' from *đak -i-* 'to hammer', *nams-iilo* 'greedy' (B 210, 19.24), *karéelo* 'wether, ram' : *káru* 'male ibex' (suffix found also in Shina).

—IE **-to* also **-eto-*, **-oto-*, adjective forming suffix (marking accomplishment of the notion of the base) :

Bur (also Shina) adj. suffixes *-to*, *-to*, e.g. *bambú* 'ball' > *bambúto* 'thick', *dúrgas* 'ghost' > *dúrgas-úuto* 'lean' (B I: 210, 19.24).

4. Lexicon

BB state that "one would expect [Bur] to have something in common with the inherited IE lexicon" (p. 54) and proceed to argue that this is not the case with our comparisons. We will demonstrate that this is outright incorrect.

4.1. Kinship terms

BB state that there is no resemblance whatsoever in kinship terms between Bur and IE and that Burushaski lacks the IE structure in kinship terms ending in *-ter*.

This is incorrect. Burushaski has the *h(x)* pl. suffix *-taro* with the variant form *-čaro* or *-daro* is added almost exclusively to words denoting relations (B I: 48), e.g. *--skir*, pl. *--skindaro*, Ng pl. *--skirišo* ‘father-in-law, wife's father or wife's father's brother or husband's father’ (B 381), Ng pl. *-skirīnc*, Ys pl. *--skirstaru* and *--skirišu* (BYs 175) from IE **s₁uékuros* ‘father-in-law’; *máma* ‘mother’, pl. *mámačaro* (B 277), *’mi* pl. *-mičaro* ‘mother, aunt on mother's side’ (B 286) (< IE **méh_atēr* ‘mother’), *-yás* ‘sister-in-law’, pl. *--yáčaro* and *-yástaro* (B 474) < **suésōr* ‘sister’ (in Bur we suggest a dissimilation from the zero-grade form **s₁uēstr* > **yestr* > **yes-taro* > **yas-taro*; Bur *-úy*¹³ and *-ú* pl. *-úyčaro* and *-účaro* ‘father; father's brother; in pl. forefathers’ (B 460) < IE **h₂éuh₂-*, **h₂éuh₂iios* ‘father's father, ancestor on father's side’; *’ncō* pl. *-ncōčaro* ‘father's sister; mother's brother's wife’, which can be compared with IE **(s)nusós* ‘daughter-in-law’, see Bomhard (888-889) who provides an Afro-Asian parallel for the Indo-European stem and reconstructs a Proto-Nostratic stem **nus^y-*, **nos^y-* with the meaning ‘woman, female; any female connected by marriage’; also Bur *-úyar* pl. *-úyarišo* Hz Ng; Ys *-yúhar* ‘husband, married man’ from IE **u₁h₂rós* ‘man, husband’; Ys *dúlas* ‘boy, young lad’ : Lat *filius* ‘son’, Lett *dēls* ‘son’ etc.

In Burushaski, through morphological re-analysis the suffix *-taro* was understood as part of a plural formation (*-tar-o* > *-taro* : *-čaro*) *-tar-* + *-o* (the *-o* is an *x pl* ending on its own right) or was simply lost in the singular. For an extensive discussion of the Burushaski plural noun forms and the retention in the plural of phonemes and morphemes which have been lost in the singular, see Čašule (2012b).

Consider in more detail e.g. the etymology of the Bur word for ‘mother’:

Bur *máma* pl. *mámačaro* ‘mother, aunt (on mother's side)’ (L 253: also *māma*) (B 277)

Note further Bur *’mi* (pl. *’mičaro*) ‘mother; mother's sister, aunt, on mother's side’ (B 286-287).

¹³ As BB admit themselves, their Dene-Caucasian etymology of this term is “highly speculative” (footnote 99, p. 54).

There is a direct correspondence with IE **méh_atēr-* (M-A2 213) (in W-I-S 457: **máh₂ter-* / **máh₂tr-*) ‘mother’. “Based ultimately on the baby-talk form *mā-* with the kinship term suffix **-ter-*” (Wat 51) (IEW 700: **mātér-*):

Burushaski *-mi* ‘mother’ may indicate a derivation from a lengthened grade **mē-* (after the loss of the laryngeal in a stressed syllable), perhaps by application of Eichner’s Law which is formulated as “Preservation of the timbre of lengthened grade *ē* in the vicinity of *H₂*.” (Eichner 1972: 78).

On the other hand it could be continuing IE **amī̃* ‘mother’ (IEW 36), with aphaeresis of the initial *a-*.

It is also very significant that (as in Latin and Greek) we have the correlation ‘mother’ : ‘breast’ from the same stem in Burushaski: *-mámut*, Ng *-maámo*, Ys *-mámu* ‘a woman’s breast; nipple (male or female)’ and by further semantic extension Bur *mamúto* ‘sucking, immature; suckling’ and Bur *mamú* ‘milk’ (B 276-7). The Burushaski words *-mámut* and *mamúto* can be compared with the Latin derivatives *mammātus* ‘furnished with protuberances or spouts’ and *mammeātus* ‘full-breasted’ (pf. participles in *-ātus*).

According to both Lorimer and Berger, none of Burushaski’s neighbours share this development. Moreover, in Burushaski it is the *basic* word for mother.

In their counterexamples, BB cite a proto-Bur form **-s* which is incorrectly reconstructed (once again with a monoconsonantal etymon) of a word which means ‘young (of animals)’ and only jokingly ‘of children’ (p. 55). This word must, however, be reconstructed to **(i)sk-o*: *-sk*, NH Bur *-sko*, Ys *-ís* ‘young (of animals), young one; also jokingly for children’. It has the force of a diminutive.

There is a direct connection with IE **-i-sk* ‘formant of adjectives and noun diminutives’ (Illič-Svityč 1976 I: 20) in Wat (36) IE **-isko*, compound adj. suffix, forming relative adjectives, denoting origin in Sl, found also in Grmc and Thracian. It is the same as the Bur adj. suffix *-ki*, *-ski* (e.g. *Burúšaski* < *Burúšín* (B 491) and the related *-ko-*, *-kus*, *-kuš* with identical functions in Čašule 2003b: 71-2, also Bur *-um* adj. and participial suffix < IE *-enko*, *-ŋko-* (composite suffix with *-ko* as the second component).

There are ~30 Burushaski terms that correspond with Indo-European (we have devoted a whole article on this issue, see Čašule 2014) and we cannot cover all of them here for reasons of space.¹⁴

4.2. Anatomical parts

BB failed to access our article devoted exclusively to the correspondences between IE and Bur in the semantic field of names of body parts (Čašule 2003) and this has made them claim incorrectly that this is not the case.

They suggest some examples of their own, but not without problems. The etymologising of Bur *-s* ‘heart, mind’, a monoconsonantal monophonemic stem, apart from the semantic latitude (comparison with ‘sky, cloud, god, wind, breath, god’ even ‘spirit’) is futile.

Rather than discuss the BB examples of what IE continuants are *not* in our comparisons we will provide a highly abbreviated sample of the ~70 names of body parts shared between Burushaski and Indo-European analysed in a separate article (Čašule 2003) and updated (Čašule 2016: 72-97).

Such a large number of correspondences in names of anatomical parts indicate a very close relationship.

1. ‘tongue’ Bur *-yúnus* Ys, in Hz Ng *-úmus* ‘tongue’ (**u-úngus*). The Ys form is older. Derives from IE **(d)ṅghū-* ‘tongue’ (E. Hamp’s reconstruction) with initial *d-* absent as in Slavic and Baltic.

2. ‘urinate’ Bur *hará-*, neg. Hz *oóara-* ‘urinate’, *-wara* ‘pissen lassen’. Berger includes also *harált* ‘rain’. Also *héras* ‘weep’ with a neg. form *oówaras* identical to the neg. of *hará-* ‘urinate’. The Bur forms derive from PIE **h₁u_{er}s-*, **h₁u_{er}-* ‘rain’ (>‘urinate’): Gk *ouréō* ‘urinate’, Lat *ūrīna* ‘urine’.

3. ‘sperm, semen’ *gonó* (Ys), *gunó* ‘seed (not of cereals); sperm, semen’, Ng *gono*. There is a direct correspondence with Gk *gónos* ‘sperm, semen’ < IE **ḡonh₁-* in words for ‘beget; bear; produce.’

¹⁴ One of the BB examples is wrong and is a loanword from Tibetan, e.g. Bur *-čo* ‘a man’s brother, a woman’s sister’ is a loanword from Tibetan (Purik *a-co*, Kinnauri *acho*, Sherpa *ajo*, Tibetan *jo*, all ‘elder brother’), as noted by Parkin (1987: 327).

4. ‘cheek, face’ *-móqiş* (Hz), *-móquş* (Ng) ‘cheek’ (L 268); *-móqiş* (Ys) ‘face’, *-móqoṭ* (Ys) ‘cheek’ (B 291). From an older stem **moqur-ş* (note e.g. Bur *gaş* ‘price’ derived internally by Berger from **gar-ş* (in Ys *garç*, *garş*) or *baş* ‘bridge’ < *barç*, *başç*. From IE **smókur-* ‘chin, beard’.

5. ‘nasal mucus; nose’ *-mús* ‘snot, nasal mucus’, Ys also ‘nose’. From IE **meug-* ‘slimy, slippery’, Gk *muxa* ‘mucus’, Lat *mūcus* ‘mucus’. (*gs* > *ks* > *ś*).

6. ‘bone’ *-ltín*, *tin*, Ys *ten* ‘bone; blood-relation’. Compare with IE **h₂ostn-* (with heteroclitic characteristics) ‘bone’. In Bur: **h₂ostn-* > **ostin* > **lt-ostin* > **lt-stin*.

7. ‘ear’ *-ltúmal* ‘ear’ (B 269) (L 252). Compare with Hitt *istaman* ‘ear’, Luw *tūm(m)an(t)* ‘ear’ (from a meaning of ‘orifice’) derived from the IE stem **stómŋ-* ‘mouth (orifice)’.

8. ‘eyebrow’ *bur* ‘a single hair (of man or animal)’ (L 88) (B 63) also and *-lpur* ‘eyelash’, *-lpurkiş* ‘with thick eyebrows’ (B 268), explained by Lorimer as (**l+būr*) (L 250). Compare with IE **bhrúh_x-s-* ‘eyebrow’.

9. ‘face’ *-skil* ‘face’, Ng *-śkil*, Ys also *-skul*. Compare with Russ *skula* ‘cheekbone’.

10. ‘vertex, centre line of head’ *-thán* and *thanes* ‘top, tip, centre line of head, vertex ‘top of mountain’ : PSlavic **iěmę* ‘vertex’.

11. ‘joint’, ‘part of limb’ *khirc* ‘(big) joint; part of a limb between two joints’ (L 234) (B 255) (*u:i/_r*) also *-khúkurus* ‘short rib’ (B 257). Can be compared with IE **krūs-* ‘shank, leg, part of leg’.

12. ‘hand’ *-rén*, pl. *-réiñ*, *-réiñciñ* Ys : Hz Ng *-riiñ* ‘hand’ (L 304) (B 364), Bur has the underlying verb *du-úr-* ‘to turn, (of mill) to work, to grind’, also *-wáre* ‘around’ (B 465). This is a very specific correspondence with Baltic and Slavic.

Compare with IE **uer-k-* and nasalised IE **urenk-* ‘to turn, wind, bend’ > **uronkā-* < IE **uer-₃* ‘turn’, esp. PSI **rōka* ‘hand’ (in all of Sl) ‘hand’, Lith *rankà*, OPruss *rancko*, all: ‘hand’.

13. ‘breast’ *-dil, -ndil* ‘breast, chest’. There is a direct correspondence with IE **dhh₁ileh_a-* ‘teat, breast’, calf’, from **dheh₁(i)-* ‘suckle’, perhaps a northwestern (Celtic, Germanic, Baltic) and late IE word for ‘teat, breast’. There is also Bur *dúlas* (Ys) ‘boy, young lad’ which parallels Lett *dēls*, which is considered a Balto-Albanian isogloss, e.g. Alb *djalë* ‘boy, young man; son’ < **delās*, (also Lat *filius*). OAlb form ‘a boy’.

14. ‘belly, abdomen’ *-úil* ‘belly, abdomen; in pl. bellies, innards, adv. *úlo* ‘inside’. Also *halkís* ‘womb’. Compare with IE **au-lo-s* ‘pipe, elongated hollow’, e.g. Lat *aluus* ‘belly, womb; hold of a ship’.

15. ‘kidney’ *irínć* ‘(polite for) testicle’, in Ys also *-rić* ‘kidney’. We can relate the Bur words to the oldest reconstructible form for ‘kidney’ in IE: **h₂eh₂(e)r-* ‘kidney’, from which we have Wel *aren* ‘kidney, testicle’ (Celt < **ār-en-*), Lat *rēnēs* (pl.) ‘kidneys’ (M-A 329). *irínć* is the older form. : **ee* > **ē* > *i*, and with the same extension as Celt, Toch and Lat: **-en-* > *-in* (*e>i* in this case maybe due to assimilation with the initial *i-*).

16. ‘artery’ *barés, barís* ‘artery, vein, pulse; long ridge of a mountain; vein of rock’. Compare with IE **uer-* ‘to tie, to put in a row, hang’, in particular the Gk *aorté* ‘leather bag; aorta’, and *artēria* ‘wind-pipe; vein, artery’. In Bur: **uor-es-* or **uer-es-* > *bar-és*, i.e. **uor-is-* > *bar-ís*. With the suffix *-Vs* from Indo-European nom. sg. *-is* see in point .

17. ‘bowels’ *-ġumór*, Ys *-ġomór* and *-ġumúr* ‘hole (small)’, linked by Berger with Bur *-ġúmar*, Ys also *-ġomár* ‘bowels, (the “inside” body); entrails’ and further *ġamór* Ng ‘ear-hole’.

There is a direct correlation with IE **ġhh_auos* ‘gaping hole’ and **ġhéh_a(u)-m₃-* ‘interior (of mouth)’ or from **ġ^wen-mer* as in Alb *zemër* ‘heart,’ fig. meaning ‘stomach’.¹⁵

¹⁵ Perhaps here from the same root, with a suffix *-to*, is Bur *-qhát* ‘mouth, opening’ or otherwise from IE **ġhed-* ‘opening’, e.g. Dutch, ON, OSax *gat* ‘hole, opening’.

Bur also has the compound word *ġaňġáato* ‘opening of a big hole, a big mouth’ (B 169), which we analyse as *ġaň-* + *ġáato*, from IE **ġhan-* ‘to open mouth’ and the second component would be the word for ‘mouth’ above, which may indicate that the original Bur word for mouth was **ġáat*.

18. ‘defecate’ Ys *gorá-*, Hz *gurá-*, Ng and Ys *guriá-* ‘to defecate’, *guráš* ‘excrement (human), cowdung’ from IE **g^wō(u)-ro-* ‘dung’ or from IE **g^wor-g^w(or)o-* ‘dirt, dung’.

19. ‘waist’ Bur *-óšcum*, Ys *-óštum* ‘waistcloth, waistbelt’. We can relate it to IE **yōs-* ‘to gird, to belt’, e.g. PSI **pojasō* ‘belt, waist’ and more precisely to IE derivations from **yōs-to-s*, e.g. Lith *júostas* ‘belted’.

20. ‘thumb’ Bur *phulúte -miš* ‘thumb’ (*-miš* ‘finger’) From IE **polo-*, **polō-* ‘swollen, thick, big’ (> ‘thumb’, e.g. Lat *pollex* ‘thumb, big toe’, OChSl *palъcb* ‘thumb’).

4.3. Shepherd vocabulary

This lexical layer is not addressed by BB since they did not access Čašule (2009a) which analyses 30 shepherd terms shared by Burushaski and Indo-European (10 of which are of Balkan origin) in this compact semantic field. We will provide a few salient examples. The correspondences are very specific and remarkably coherent and compact.

1. *huyés* (sg and pl) ‘small cattle (i.e. sheep and goats)’ in Ys also: *huís*. Corresponds directly and remarkably with IE **h₂óuis* (gen. **h₂óuios*) ‘sheep (*Ovis aries*)’.

2. *buqhéni* ‘goat with distinctive features on the head’. Compare with IE **bhuǵos* ‘buck, he-goat’: OIr *boc*, Wels *bwch*, OEng *bucca* (Grmc < **bhuǵnó-*).

3. *hálkit* Ys, *élgit* ‘she-goat over one year old, which has not yet borne young’.

It can be derived from IE **h₁elū-* ‘red, brown (in names of trees and animals)’ (in IE also: ‘yellow; white; reddish, golden’, with the *k̂*-formant (**ol-ki*) (in Gottlieb 14: ‘deer-like, (horned) animal’), as in OHG *ēlho* ‘elk’, Eng *elk*, Pam *rus* ‘wild mountain sheep’.

4. *butár* ‘male kid (the animal) (under one year old)’. Derives from IE **u₁et-ru-* (**u₁etero*) (< **u₁et-* ‘year’) similar to OEng *wether* ‘wether’, Goth *wiprus* ‘one year old lamb’, < Grmc **wethruz* perhaps ‘yearling’, with other suffixes: Lat *vitulus* ‘calf, yearling’. Semantically very specific.

5. *meénis* ‘female sheep over one year old which has not had young’. Semantically, the Bur word is closest and almost identical to Rom *mînzare* ‘female sheep (for milking)’, *mînzar* ‘one year old lamb’, Brâncuş (97-100) considers it a certain substratal (autochthonous) word in the Balkans. And further: Grm (Bavarian) *manz, menz* ‘sterilis uacca’, usually derived from the IE stem **mend-*, **mond-* ‘to suck, to feed young animals’. In : **mendis* > *meénis*, with loss of *-d-* and compensatory lengthening of *-e-*. For the loss of *-d-* in the group *-nd-*, consider e.g. Bur *hánik* < OInd *hándika* or Ys *géndes* : Hz Ng *génis* ‘gold’ (B 175). Both the specific semantics of ‘young animal’ and ‘not having young’ are present in Bur and it matches the IE developments and esp. Rom directly.

Possibly related are Bur *mundáq* Hz Ng ‘grown big, developed (of a child or young animal)’ and Hz Ng *múndas*, Ys *búndas* ‘tick (insect)’ which could belong here, esp. considering the core semantics of a tick as a ‘blood-sucking insect’.

6. *run* ‘alpine pasture, open grazing ground on hills, grassland’ (L 305: Hz *rūn*). (B 366).

Can be compared with IE **reuə-* ‘to open, space’, suffixed zero-grade form **rū-mo-* : OProv *run* ‘ship’s hold; space’ suffixed form IE **réuh_xes* < **reuh_x-* ‘be open’ : Lat *rūs* ‘open land, the country’. There are 10 significant correspondences with the Balkans, with the shepherd vocabulary of Albanian, Aromanian and Romanian. For example, apart from [5.] above, note:

7. Bur *tark* ‘byre, hut for animals’. Directly related to a Balkano-Carpathian word believed to originate from one of the ancient Balkan languages: Alb *thark, cark* ‘byre for animals’, Rom *țarc*, Arom *țarku* ‘winter byre for sheep; fence around stack’. It is also found in Pl Slk Ukr Hung Mold. Rasmussen (1999: 648-9) correlates the Alb word internally with Alb *thur* ‘embrace; fence in’ and further with Lith *tvarkà* ‘Haltung, Fassung, Ordnung’, *tvorà* ‘fence, hedge, borderwall’ < Lith *tvėrti* ‘embrace, enclose, fence in’, ultimately from IE **t_uer⁻²*, **tur-* **t_uerə-* ‘to grab, enclose’.

8. Ys *bešké*, also Hz Ng *bišké* ‘hair (of animals), fur’ from *beskáreť* Ys, Hz Ng *baskárat*, Cunn, Leit “bashkar” ‘wether, ram (over 2 years old, castrated)’ and perhaps *bišqár* adj. ‘raw, rough wool’. *sk* > *šk*. This is an

important direct and precise correspondence with Alb *bashkë* ‘sheep’s wool’, Rom *bască* ‘same’, considered of substratal Paleobalkan origin, from a Thrac **baska*, **vaska* ‘wool’, derived with the suffix *-ka* < IE **ues-* ‘to clothe’, from which Burushaski also has the verb *-wási-* ‘put s-thing in or on’.

9. Ys *bać* ‘goat house, sheep house’ : e.g. Mcd, Srb, Croat *bač* ‘shepherd’, *bačija* ‘pen for sheep’.

10. *puréelo* ‘a type of flute’ : Srb, Croat *frula* ‘flute’, Hung *furulya* ‘flute’, Alb *floér* ‘flute’, etc.

4.4. Basic verbal roots

BB don’t comment on this question but only give 3 IE verbs that are *not* in our materials and give a wrong representation, which is totally off the mark.

The numerous – 101 correspondences of Burushaski with Indo-European in basic verbs (considered autochthonous) + 67 periphrastic verbal constructions are also highly significant. They constitute one third of our corpus. They provide the definitive evidence of the Indo-European origin of Burushaski.

The Burushaski independent verbs denote: *to appear, to be, to be able to, to be rendered impure, to beat, to beat (wings), [to bite], to become, to become damp, to break, to burn₁, to burn₂, to burst (break), to buy, can, to come, to come out (to move), to curve, to cut, to cut a tree (to pollard), to cut up, to dam up, to decrease, to deny, to dig, to do (make), to drain, to draw (pull), to drink, to drive oxen, to enter into, to exchange, to feed, to grind (rub), to fall, to fall down, to feel lucky, to fly, to give, to hide, to gather, to go away, to hit, (become wounded) > kill, to know, to lean on, to learn, to leave, to let in, to light up, to look₁, to look at (watch), to look for, to love, to make peace, to mature, to measure, to pain, to pay, to placate, to plough, to praise, to pull down, to pull out hair, to put down (set), to put on, to rain, to read, to reap, to remain over, to revile, to run₁, to say₁, to say₂, to see, to seize, to send, to shiver (to become dizzy), to show off, to sink, to sit down, to spin, to stay, to steal, (to be) stopped, to strike (one thing on another), to surround, to sweep away, to swell, to swell up, to take away, to talk, to thresh, to throw, to tie, to tire, to transport, to tread, to urinate, to wash, to wear, to weep, to write.*

There are 67 correspondences in Bur basic periphrastic verbal expressions: *to beat lightly, to blow, to break, to break into pieces, to breathe heavily, to carve, chat, to conquer, to crush, to curve (to bend), to be deprived of, to devour, to die, to do magic, to embrace, to endure, to fall in a hole, to fall over, to fill, to flow over, to frown, to go to war, to groan, to haul, to hold out, to hurry, to jump, to let go, to lift, to look₂, to moan, to move aside, to nourish, to open mouth, to put or set down, to be ready, to ripen, to roast, to roll up, to run₂, to run away, to scold₁, to scold₂, to shake, to shine, to skip, to slurp, to speak, to spread around, to spring up, to stay immobile, to strike (violently), to stroke, to submerge, to suck, to swell₁, to swell₂, to swim (bathe), to talk slander, to take up, to take up (a child), to throw, to throw upon, to tie up, to trample, to watch, (to do) work.*

It is impossible in this paper to do justice to this body of evidence. We will look at some verbs in the next section. We provide some representative ones.

Bur *bá-* / *b-* ‘to be, to exist = verb copula’ : IE **bheu(h_x)-* ‘come into being, be’

Bur *doók man-’* ‘to put or set down’, *doók -i-* ‘build, make (provisionally); place, lift, raise (a stone)’. Corresponds directly with IE **dhō-k-* ‘to do, to make, to set, put’.

Bur *dél-* ‘beat, strike, smite, hit, shoot; cut or chop down’ : IE **del-* ‘split, carve, cut’.

Bur *hákin-* ‘to learn’: E **h₁euk-* ‘become accustomed’, Arm *usanim* ‘learn, be used to’.

Bur *d-hemia-* Ys, *d--mi-* Hz Ng ‘gather, collect, obtain, acquire, get; harvest (fruit); reap and store’: IE **h₁em-* ‘take, gather; distribute’: OIr *ar-foīm* ‘take’, Lat *emō* ‘take, buy’.

Bur also has *d-mar-* ‘take s-thing from s-one’s hands, take away; to take load’ : IE **mar-*: Gk *márē* ‘hand, wrist’, Alb *marr* ‘take, grasp’.

Bur *girmín-* ‘to write’: IE **g^(w)hrēi-*: **g^(w)hrī-* ‘smear, scratch’, e.g. Phrg *gegrimenos* ‘written, inscribed’, or with IE **gerbh-* ‘to scratch’.

Bur *gáarc-* (part. *nukáarc(in)*) ‘run’: IE **k^hers-* ‘to run’.

Bur *--man-* ‘be able to, can, be capable of’: Alb *mund* ‘be able to’ from **men-* ‘think, remember’.

Bur *man-’* ‘be, become, turn into > come into existence, occur, take place; belong to; be necessary to do s-thing or for s-thing to be done’, also in forming verbal constructions: IE **men-* ‘remain, stay’: TochAB *māsk-* (< **m_ṇ-skē/o-*) ‘be, become’. This and the previous root are considered together in IE by some scholars.

Bur *dērginas* ‘to spin’: IE **dhereǵh-* ‘to wind, to spin’ (IE **dhrǵh-nā-*).

Bur *gí-*, *gíy-* ‘throw or cast down, fling; throw in; attack’: IE **ǵhi-* ‘throw’.

Bur *halés -i-* ‘to raise, rear, feed, nourish’: IE **h₄el-* ‘grow’: OIr *ailid* ‘nourishes’, Lat *alō* ‘nourish’, *alēscō* ‘grow’, ON *ala* ‘nourish’.

Bur *óos-* ‘put down, place, set, lay; keep; impose tax, also an auxiliary verb’: IE **h₁ēs-* ‘to sit’ from PIE **ǵēs-* / **ǵōs-* ‘put, place, set; sit, be seated’, e.g. Hitt *e-eš-zi*, *a-aš-zi* ‘set, sit, to beset, to do’.

Bur *du-khár-* ‘deny, repudiate, reject, refuse compliance’ from IE **kar-* ‘reprove, scold, revile; praise’.

Bur *d--kukin-*, *d--kukun-*, *d--skukin-*, *d--skukun-* ‘light up’ : IE **kēu-*₂ ‘to light, burn’, with a *k*-formant: **kéuk-* ‘to shine, glow, burn’ as in Skt *sócati* ‘gleams, shines’).

Bur *prik(in) dél-* ‘leap, jump, buck’ (Ng also *prig*). : IE **preu-g-* ‘to jump’ : Russ *prygat’* ‘to jump’, Lith *sprūkti*, *sprukstu* ‘to jump, slip’.

5. Basic vocabulary and the Swadesh 110-list¹⁶

The Swadesh list is used strictly in a general way and we should stress that as the comparisons stand, they are not suitable for a lexicostatistical or glottochronological calculation, not least because on one side we have a protolanguage. What we propose are simply the correspondences and etymological connection of Burushaski with Indo-European in this basic set of words¹⁷, i.e. in the core vocabulary. This is why in a few cases we may be dealing with less frequent forms or multiple correspondences. In the great majority of cases Burushaski corresponds with reconstructed Proto-Indo-European roots that are widespread in IE. In a few cases the correspondences are specifically with various IE subgroupings and languages (notably Latin, Slavic and Greek). In [17], [38] and [54] we have specific Bur developments from PIE roots. In one case [7], (which strictly speaking should not be on the list) the correlation is with a stem found throughout Nostratic, yet not in IE, although such instances are to be expected. [32] and [78] could be loanwords from Indo-Aryan. The number of correspondences – 85 (eighty-five) (in a more stringent

¹⁶ This section is adapted and abridged from Čašule (2017a: 261-275)

¹⁷ These are abbreviated examples and the reader is instructed to always refer to the fully analysed etymological entries in Čašule (2007a).

assessment 78) between Burushaski and Indo-European in this core vocabulary is remarkable. Although we don't provide a lexicostatistical or glottochronological analysis, it can be safely said that at its foundation, in its essence, Burushaski is Indo-European, and the split did not occur in deep antiquity. This confirms the position that Burushaski is at its core Indo-European and that it was transformed grammatically in contact with a language of an ergative and agglutinative structure.

[1] *all* ----- not found.

[2] *ashes*: Bur *háas* 'glowing embers' from PIE **h₂eh_x-s-* 'burn, glow' (> 'star, ember, ash').

[3] *bark*: Bur *waṭ* 'bark', from *baṭ* 'skin': IE **baiteh₂-* 'goatskin, cloak', e.g. Gk *baítē* 'coat of skins; tent of skins'. See also [75].

[4] *belly*

Bur *-úl* 'belly': IE **au-lo-s* 'pipe, elongated hollow', e.g. Lat *aluus* 'belly, womb'.

[5] *big* ----- not found.

[6] *bird*

Bur *balás* 'bird' from *du-wál-* 'fly, fly away', *d--wal-* 'winnow', cp. with OChSl *vľajati se* 'to be cast up, fluctibus agitari', maybe also Lat *volō* 'fly, fleet, speed' from IE **uel-₇* 'turn, wind; round'. [See also 30.]

[7] *bite*

~Bur *gaṭ'* 'bite'. With Nostratic parallels in Afrasian, Dravidian, Proto-Kartvelian, Uralic and Proto-Eskimo (yet not in Indo-European) with a Proto-Nostratic stem **Gat^y-* 'to bite'.

[8] *black*

Bur *matúm* 'black', from IE **meu-t-*: e.g. Arm *mut'* 'dark, blackness, haze', *mt'ar* 'dark'.

Bur *qarčís* 'to have a certain colour (black, darker type)'. Corresponds with IE **kers-* or **k^wrsnós* 'black'.

[9] *blood*

~ Bur *multán* ‘blood’. Tentatively, Gk *miltos* ‘red dye; red-brown of plants’ also used to designate ‘blood’ as an euphemism or linguistic taboo, also *militáron* ‘blood’. A derivation is possible from **mel-*, **melə-* ‘dark colour’ e.g. Lat *mulleus* ‘reddish’.

[10] *bone*

Bur *-ltín*, Ys: *ten* ‘bone; blood-relation’. Compare with IE **h₂ostn-* ‘bone’.

[11] *breast*

Bur *-díl* (Ys), *-ndíl* ‘breast, chest’. A direct correspondence with IE **dhh₁ileh_a-* ‘teat, breast’.

[12] *burn*

Bur *ğulú-*, Ys *ğól-*, *ğul’* ‘burn, be burnt up’. From IE **ğuelh_x-* (or **g(e)u-lo-*) ‘burn, glow, charcoal’, a stem of considerable antiquity.

[13] *claw*

Bur *-úri* and *-úriş* ‘crest, ridge, mountain peak; prong; fingernail’, in Ys also ‘claw’ and further From IE **uer-* ‘high raised spot or other bodily infirmity’, zero-grade form **ur-*.

[14] *cloud*

Bur *kurūn* (L), Ng *kōrōn* also *qhurónç*, Ys ‘mist, cloud, rain-cloud, fog’: IE **kūh₁-(e)ro-* > **kū-ro-* ‘north wind, shower’ as in OEng *scūr* ‘shower, storm’, MEng *scouren* ‘to range over’.

[15] *cold* ----- not found.

[16] *come*

Bur *d-y(a)-* / *d’y(a)-* / *d’y(a)-* ‘come, come along, come up, approach; come back’. Compare with IE **h₂ei-* ‘go’, ext. **iā-*.

[17] *die*

Bur Hz Ng *-ír*, Ys *-yúr-* ‘to die’, which can be correlated with IE **h₂orh_x-* ‘destroy, fall apart; lose’ with the semantics of ‘fall apart’ > ‘die’ (*u:i/_r*). Also Bur *do-hór-* ‘to fall down, to ruin’.

Bur *-wáalas* ‘to disappear; to get lost; to be finished; to die’ derivable from IE **uel-* ‘to die’.

[18] *dog*

(?) Bur *gaálgo*, Ng also *gaáljo*, L also *kaaljo*, Leit. *gal* sg ‘a species of wild black dog’. Note IE **(s)koli-* ‘young dog’.

[19] *drink*

Bur *min’*, *mií-* Ys *men’* ‘to drink; to smoke’. From IE **peh₃(i)-* ~ **pih₃₋* ‘drink’ : esp. with Gk (Attic) *pínō* ‘drink’. (*p>b>m*).

[20] *dry* ----- not found.

[21] *ear*

Bur *-ltúmal* ‘ear’. Compare with Hitt *istaman* ‘ear’, Luw *tūm(m)an(t)* ‘ear’ (from a meaning of ‘orifice’) from the IE stem **stómŋ* ‘mouth (orifice)’.

[22] *earth*

Bur *tik* ‘earth, ground; rust’. A tentative correlation is possible with IE **dhǵhem-* ‘earth’: Hitt *tēkan* ‘earth’, TochA *tkam* ‘earth’.

[23] *eat*

Bur *śí-* (*hx* sg) and *śú-* (*hx* pl) Hz Ng *śe-*, inf. *śéyas y* sg and pl, ‘to eat, eat up, devour; to drink; to bite’. Can be compared with a common change *gy > ś* with IE **ǵjēu-* ‘to chew’, most directly with TochAB *śuwā* ‘to eat’.

[24] *egg* ----- not found.

[25] *eye*

Bur *-l’cin* (Hz Ng), *-l’ci* (Ys) ‘eye’. Can be correlated with IE **ok^w-* ‘eye’ or **h₃ok^w-*. For Bur *-l’cin*: **ok^wje-(n)* > **lt-okje-n* > **lt-kje-n* > **lt-će/in* or **lt-śe/in* > *-l’cin*.

[26] *fat (grease)*

Bur *bij* NH ‘butter’, and *bis* Hz Ng, *bes* Ys ‘fat’ (n.), from IE **pǵ-* in words for ‘fat, sap, pitch’, as e.g. Gk *píōn*, *píssa* ‘fat’, Lat *pix* ‘pitch’.

[27] *feather*

Bur *phulgúuy*, Ys *pholgó* ‘feather’. Berger relates the second component to *ǵuyán* ‘hair’, also from IE (< **gour-yo-* or **gun-yo-*) which can be correlated with IE **góur-*, (gen. **gunós*) ‘body hair, lock of hair’. The first component can be compared with Lith *plunksna* (old *pluksna*, *plusna*),

‘feather’ explained as either : *plaukas* ‘hair’, or with *k* from this group, from an old *plusna*, this: Lat *pluma* (< **plus-mā*).

[28] *fire*

Bur *phu* ‘fire’, *phú ét-* ‘make a fire’. Also Ys *phurés -i-* ‘to cook, to slander’. Can be related to IE **peuōr*; **pūr* ‘fire’ from an older **peHw-*, **peh₂ur-*.

[29] *fish* ----- not found.

[30] *to fly*

Bur *du-wál-* ‘to fly, fly away’, *d--wal-* ‘to winnow’, cp. with Lat *volō* ‘fly, fleet, speed’, from IE **uel-₇* ‘to turn, wind; round’ (see [6]).

[31] *foot*

Bur *-hútes* (Ys), Hz Ng *-úť* and *-úťis* ‘foot, lower leg’ (also Bur *hóťi* ‘artificial penis’). Compare with PSI **udb-* ‘limb, penis’ (throughout SI e.g. Blg *ud* ‘extremity; leg; membrum virile’) from IE **h₁óuh_xdh₂-* (< **h₁eu_xdh-* ‘swell (with fluid)’).

Bur *badá* ‘sole of foot; step, pace’ (B considers it an original word). From IE **ped-*, **pod-* (nom. root) ‘foot’ and from IE **ped-*, **pod-* (verbal root) ‘fall, stumble’ : Ys *badán -wál-* ‘fall down on one's back, fall over, faint’. Bur also has *padáay -i-* ‘kick a stone with the foot’.

[32] *full*

Ys *hek*, Hz *hik* ‘full’, possibly the same as *one* [63].

~Bur *bil* and *bir* ‘full, brim full’, *bil (bir) --t-* ‘to fill’ (B 53), Compare with IE **pelh₁-* ‘fill’ Possibly a loanword from IA.

[33] *give*

~ [tentative] Bur *-ú-* ‘to give’ may derive from IE **dō-*, **dō-u-*, **du-* with possible loss of *d-* because of conflicting meaning with the *d-* prefix.

[34] *good*

Bur *daltás* ‘good, fine; superior; beautiful; thriving’, *daltáskus* ‘excellence, good health, beauty’, with identical semantic development as in Gk *thállō* ‘abound, be luxuriant or exuberant’ or Hitt *talles* ‘be favourable’, which derive from IE **dhal-* ‘to sprout, to flower’, e.g. Alb

dal ‘rise, grow’. In Bur ^l*dal* ‘up; above, over’, ^l*dal -i-* ‘to take up, raise, remove’.

Bur *márin* DC also Ys *marín* ‘good, very fine, excellent; nice; strong; fit; superior, best’ also ‘distinguished, noble’ < IE **meh₁ros* ~ **moh₁ros* ‘large’ (**ma-* / **mə-*) : ON *mærr* ‘known, famous, great’.

[35] *green*

Bur *šiqám* Ys *išqám* ‘green, blue; gray (of horse)’ which B derives from *šiqá* ‘grass, foliage, small plant’. Compare with IE **kéh₁kom* ‘edible greens’ which is related to IE **k̂/ā/k(h)ā*, **k̂ak(h)ā* ‘branch; plough’, i.e. **kóh₁kōh₂* and **ksoh₁kōh₂*. In Bur < **kséh₁kom*.

[36] *hair*

Bur *būr*, *bur* ‘a single hair (of man or animal)’ and *-l̄pur* ‘eyelash’, *-l̄purkiš* ‘with thick eyebrows’. Compare with IE **bhrúh_x-s-* ‘eyebrow’.

Bur *guyán pl* ‘hair of one’s head’ (< **gun-yo-*). Correlates with IE **góur-* (gen. **gunós*) ‘body hair, lock of hair’.

[37] *hand*

Bur Ys *-rén* : Hz Ng *-ríin* ‘hand’. Bur has the underlying verb *du-úr-* ‘to turn, (of mill) to work, to grind’, also *-wáre* ‘around’. Compare with IE **uer-k-* and nasalised IE **urenk-* ‘to turn, wind, bend’ > **uronkā-* < IE **uer-* esp. PSI **rōka* ‘hand’, Lith *rankà* ‘hand’. A very specific correspondence with Baltic and Slavic.¹⁸

Note Bur *d-mar-* ‘take s-thing from s-one’s hands, take away; receive, pick up, take load’, *d-mar-* ‘make s-one ask; take’; Ng ‘offer hand to be kissed’, which can be compared with the IE forms derived with an **-r* extension from IE **h₁em-*, **meh₁-* ‘take, lay one’s hands on, grasp’, also represented in Bur *de-hémia-* ‘collect, obtain, get’, i.e. IE **mar-* : Gk *márē* ‘hand, wrist’, Alb *marr* ‘take, grasp’ (< **marnō* denom. from **mar-* ‘receive in hand’). The Bur words *marmúk* ‘handful’ and *marmúk -i-* Ng ‘take in hand; embrace’ most probably contain the same stem.

[38] *head*

Bur *-yátis* (Hz Ng) (L also *-yétiš*), *-yátes* (Ys) ‘head; mountain peak; leader; a big thing’. Berger derives it from *yáte* (in L also *yéte*), short form

¹⁸ This is not an isolated specific correspondence. There are over 30 unique isoglosses shared between Slavic and Burushaski, see Čašule 2017b.

yaṭ ‘up, above, on the top; (adj) upper, further, later’. Compare with IE **h₁eti-* ‘and, in addition moreover’. In Bur < **i-etis*.

[39] *hear* ----- not found.

[40] *heart* ----- not found.

[41] *horn*

[‘horn, ram, sheep, cow, stag’ in IE, in Bur ‘ram, small cattle, male ibex, sheep’]

Bur *karéelo* ‘ram’ From IE **kérh₂(s)* ‘horn’ e.g. Gk *kéras* ‘horn’, TochB *karse* ‘stag’, **kóru* ‘horn’, e.g. Lat *cervus* ‘stag’, Lith *kárvė* ‘cow’, and further ON *hrūtr* ‘ram’, Gk *kárnos* ‘sheep’, *kríos* ‘ram’, Hitt *kar(a)war* ‘horns’. And further: Bur *káru* ‘male ibex’ and *krizí* and *krózo* ‘sheep and goats’.

[42] *I*

Bur Hz Ng *je*, Ys *ja* ‘I’ can be correlated with IE **h₁eǵ-* ‘I’. [See 3.3.].

[43] *kill*

Bur *¹-sqan-* ‘kill, slay’, *d--sqan-* ‘use up, get worn out’ from *¹-ǵán-* ‘become wounded’, *du-ǵán-*, *d-ǵán-* ‘be worn out, exhausted; be finished’. Corresponds with IE **g^when-* (**g^wh₂n-* ?) ‘strike, smite, kill’, e.g. OInd *hánati* ‘hits, kills’, OIr *gonaid* ‘wounds, strikes’ etc.

[44] *knee*

Ys *-núñus* ‘knee, hock’, Hz Ng *-dúmus*. B considers *-núñus* to be older. Compare with IE **ǵonu* (gen. **ǵénus*) ‘knee’ similar to the protoforms proposed for Alb *gju* (< **gluno-* < **ǵnu-no*) ‘knee’ or OIr *glūn* (< **ǵluh_xni-* < **ǵnu-h_x-ni-*) ‘knee’ i.e. in Bur from **ǵnuñ-us*. Also Bur *gúni* ‘quarter (of room), corner, angle; group, society of people’ (B 161) which provides the form with *g-* – compare with Gk *gōnía* ‘corner, angle’ from the IE word for ‘knee’.

[45] *know*

Bur *ǵan-* ‘appear, seem, be visible’, Ys also *-ǵán-*, *ǵên-* ‘see, view’, neg. *akhén-* ‘not to know’, also adj. *akhénas* ‘ungrateful’. From IE **ǵen-*, **ǵenh₃-*, **ǵneh₃-* ‘know, be(come) acquainted with, perceive’ e.g. Bret *neus* ‘appearance’, OHG *kunnan* ‘know, be able to’, Arm *caneay* ‘knew’,

an-can ‘unknown’, OInd *jānāti* ‘knows, recognises, perceives, understands’, Gk *gignōscō* ‘learn, know, perceive, discern, observe’ and esp. TochB *nānā* ‘appear’.

[46] *leaf*

Bur *tap* ‘leaflet, petal; leaf, page’ from IE **steip-*: OInd *stībhi-* ‘panicle, tuft’, PSlav **stǫbľ* ‘stalk, stem’: Russ *stebelʹ* ‘stem, stalk’, Lat *stipula* ‘stalk, straw’ (‘stalk’ and ‘leaf’ are synonyms), traced to IE **stāi-* ‘to stand’, represented in Bur *d-stay-*, Ys *d-šta-* ‘prop up, stay’.

[47] *lie down* ----- not found.

[48] *liver*

Bur *-kin* ‘liver’. Morgenstierne noted a parallel with Skt *yakn* ‘liver’. Possibly from IE **yékʷr(t)-* ‘liver’, e.g. OPruss *iagno*, Lith *(j)ėknos* pl, Lett *aknas*, Skt *yákṛt* all: ‘liver’.

[49] *long*

Bur *burinum* ‘long (time)’: Thracian stem *buri* ‘a great deal of, full, complete, rich’ and Skt *bhūri*, Lith *būris* ‘heap, herd’, all from IE **bheu-*, **bhū-* ‘come up, spring up, swell’.

[50] *louse*

Bur *khāndas* ‘a tick’. From IE **k̑(ō)nid-* ‘nit, louse egg’: ON *gnit* ‘nit, louse eggs’, Lith *glinda* ‘nit’, Mcd *gnida* ‘nit’, Gk *konís* (gen. *konídos*) ‘nit’, Arm *anic* ‘louse’.

Bur *kharúu* ‘louse’ < IE **kōris* ‘biting insect’, Gk *kóris* ‘bedbug’, OSi *korǫ* ‘moth’.

[51] *man*

Bur *-úyar* pl. *-úyarišo* Hz Ng; Ys *-yúhar* ‘husband, married man’. From IE **u̯ih₂rós* ‘man, husband’: OEng *wer* ‘man, husband’, Lat *vir* ‘man, husband’, Lith *výras* ‘man, husband’, Av *vīra-* ‘man, person’, Skt *vīrá* ‘hero; [eminent] man, husband’.

[52] *many*

Bur *buṭ* ‘much; very; greatly’, possibly from *ba-* ‘to be’, cp. as in Vedic Skt *bhúmān* ‘abundance, numerous’ < IE **bʰuh₂mon-*, or Lett *būris* ‘heap, quantity’ < IE **bʰuh₂r-ijō-*. In Bur from **bʰu-to* or *bʰu-tro* < **bʰeuh₂-tro*.

Bur *pháalis* ‘a lot of, in abundance’, from IE **pelh₁us-* ‘much’ or **pelu* ‘a lot, a multitude’: OInd *purú*, Grm *viel* ‘a lot’, esp. with Gk *polýs* ‘many’, and Lat *plūs* ‘more’, esp. from **pleh₁ios-*. The Bur stem could derive from **p_llu-s*, or from IE **p(e)lēs-* or **plūs*.

Bur *men ke* in the meaning ‘many’ has been derived and explained from Bur *men* ‘who, what’, yet it may be that two meanings converged, the pronominal interrogative and relative and quantitative and there could possibly be a correlation with IE **men(e)gh-* ‘abundant’ (e.g. OEng *manig* ‘many’).

[53] *meat (flesh)* ----- not found.

[54] *moon*

Bur *halánc* ‘moon’ (with the pl. suffix *-ánc*), from *hal-*. Correlatable with Bur *halç* ‘torchwood’ and both with PIE **h_ael-* ‘to burn’. Another possibility is Gk *hálos*, Lat *halos* ‘disc of the sun or moon; ring of light around the sun or moon’, of unknown origin.

[55] *mountain*

Bur *bérkat* Ys ‘summit, peak, crest; height’. From IE **bherǵh-* ‘high’ and **bherǵh-o-s* ‘hill, mountain’: Hitt *parkuš* ‘high’, PSI **berg_o* ‘hill, mountain, coast’, OHG *berg* ‘mountain’.

Bur *bun* ‘mountain-, mountain wilderness; rocky; NH: heavy; mountain pasture; boulder’. From IE **b(h)ō(u)n-* ‘to swell, rise’: Gk *bounós* ‘hill, mound, mountain’.

[56] *mouth*

Bur *-qhát* ‘mouth, opening’. With a suffix *-to-* from IE **ǵhēu-* or **ǵh_h_au_os* ‘gaping hole’: TochA *ko* ‘mouth’. Or from IE **ǵhed-* ‘opening’, e.g. OEng *geat* ‘gate’, Dutch, ON, OSax *gat* ‘hole, opening’.

[57] *name*

Bur *-ík* Hz Ng, in Ys: *-yék*, ‘name; good name, good reputation’, *ík dilá* Ng ‘one says, it is said’, *-é ... -ík ét-, óos-* ‘to name, to call, give a name’. From PIE **h₁eǵ-* or **h₁eh₁ǵ-* ‘say’: Lat *axāre* ‘+/- call by name, give a name to’, Arm *asem* ‘say’, TochAB *āks-* ‘announce, proclaim, instruct’ (widespread and old in IE). The Latin semantic development is identical.

[58] *neck*

Bur *-š(i)-* ‘neck, nape of neck, external throat; collar; neck of hill’. A precise match with PSI **šija* ‘neck’, found throughout Slavic, also Alb *shî* ‘nape of neck’.

[59] *new* ----- not found.

[60] *night*

~Bur *thap* ‘night’ (Sh *thap* ‘dark’). Tentative, perhaps from **tab* < IE **tem(ə)-* ‘dark’.

[61] *nose*

Ys *-mús* ‘nose’, Hz Ng Ys ‘snot, nasal mucus’. From IE **meug-* ‘slimy, slippery’, Gk *muxa* ‘mucus’, Lat *mūcus* ‘mucus’, Lat *mungō* ‘blow nose’, Gk *apomussō* ‘wipe nose’.

[62] *not*

Bur *be*, often also *bée* adv ‘1.no; 2. not; if not; but no; on the other hand’ and 3. interj. ‘right?; no?; see?; isn’t it?; don’t they?; didn’t I?’. Considering the alternation *b:m* in Bur from IE **mē-* ‘not’ : Alb *mos* ‘not’, Gk *mé* ‘not’, Arm *mi* ‘not’, Av, OInd *mā* ‘not’, widespread and old in IE. Bur *ne...ne* ‘neither...nor’ (L 276) (B 298, 303), and further *nii* (occurring as a particle after a verb ‘...or not?’ (it may be used with a rude effect) from IE **nē-* ‘not’ from which we have OInd *ná*, Lat *nē*, Goth *nē* ‘not’.

[63] *one*

Bur *hen* Ys, *hin* Hz Ng *h*, *han* *xy*, Ys *hek*, Hz Ng *hik z* ‘one’. *hik*, *hek* from IA. The *-n* forms correspond to IE **h₁oi-no-s* < **e-/*o-* deictic pronoun (**e-*, **ei-*, **i-*) + particle *-no-* : OIr *oīn* ‘only one, single’, Wels *un* ‘one, a, an’, Lat *ūnus* ‘one, alone’, ON *einn* ‘one’, OEng *ān* ‘one’, OPrus *ains* ‘one’, OSl *ino-* ‘one’, (*j*)*ed-ɔn-* ‘one’.

[64] *person*

Bur Ys *ses*, Hz Ng *sis* sg. and pl. ‘people, folk; person, man’, from IE **s_ué-* (also **se-*) ‘own’ in Bur from IE **s_ué-s*. Consider Alb *gjysh* ‘grandfather’, derived from IE **s_{au}is_{ja}* related to Lith *sāvas* ‘own’. Other scholars have derived the Alb word together with Skt *sūṣā* ‘progenitor’ or ‘paternal grandmother’ from IE **seuh_x-* ‘bear, beget’. From this last stem we have in Bur *súas*, *súyas*, *dusúas*, *dusúyas* ‘to bring; take, fetch; procure; to buy’.

[65] *rain*

Bur *harált* ‘rain’ related by Berger to *hará-*, Ys: *hariá-*, neg. Hz *oóara-* ‘urinate’, *-wara* ‘pissen lassen’. Also Bur *war man-* ‘(of rain) to fall heavily’ and *hér-* ‘weep, cry, lament’. The Bur forms are from PIE **h₁uērs-*, **h₁uēr-* ‘rain’ (> ‘urinate’) : Gk *ouréō* ‘urinate’, Lat *ūrīna* ‘urine’.

Ys *daú* ‘rain’. From IE **dheu-* ‘to run, to flow’, it corresponds with the semantic specialisation in Germanic: ON *døgg* ‘dew’, OEng *dēaw* ‘dew’, Eng *dew*.

[66] *red*

Hz *báardum*, Ys *bárdum* ‘red’ can be compared with Arm *vard* ‘rose’ (< Irn), Av *varəða* ‘rose’, AncGk *rhódo-n*, Aeolic Gk *bródo-n* ‘rose’, OEng *word* ‘thorn shrub’ which Walde-Pokorny derive from an IE **uordh-*, **uord-* ‘sweetbrier, thorn’. It belongs to a group of words considered of wider Mediterranean distribution and presumed to be common loans from an unattested language, also Aramaic *vardā* ‘rose’.

[67] *road (path)*

Bur *gan*, Leit, Cunn *gand* ‘road, path, track, way, journey’. Compare with IE **ken-* ‘set o-self in motion, arise, make an effort’, esp. its variant form **skand-* also **skend-* ‘to leap, climb’ (‘climbing path’).

[68] *root* ----- not found.

[69] *round*

Bur *-wáre* or *-wára* ‘around’, *du-úr-* ‘to turn’. From IE **uer-* ‘to turn, bend’: Lat *vertō* ‘turn’, Lith *verčiù* ‘turn’, OInd *vártate* ‘turns’.

[70] *sand*

Ys *sáu*, in Hz Ng *sáo* ‘sand’, double pl. *sáomin* ‘sand’. From IE **(bh)sa-* ‘rub’ in words for ‘sand’, like **bhs-amadho-* (Gk *psámathos* ‘sand’), **(bh)sa-dhlo-* (Lat *sabulum* ‘coarse sand’), OHG *sant* ‘sand’ < **bhes-* ‘rub’. Also here Bur *bastáo* ‘a type of flour’ and perhaps *baspúr* ‘fodder for horses’.

[71] *say*

Bur *sén-* ‘say, mention; speak; call sth or smb by a name’. From IE **suenh_x-* ‘(re)sound’: Lat *sonō* ‘resound, make a noise’, Lett *sanēt* ‘sound,

make noise', Av *apa-h^vana-* 'turn back sound', OInd *svánati* 'roars, makes sound'.

(See also *name* [57].)

[72] *see*

Bur *barén-*, *baré-* '1. look at sth; watch, notice, see. 2. look for; seek; search for. 3. pay attention; heed; listen; keep in mind; regard; consider; be aware of. 4. evaluate; judge; see how well smb does sth; find out; to test. 5. look after; take care of; watch (children); protect; keep one's eye on'. Related to: IE **uer-₈* 'perceive, watch out for', IE : Lith *vėrt* 'see, notice, look into', OHG *wara* 'care, attention', *wær* 'watchful', Eng Gk *oráō* 'see', and Gk Hesychius *bōroi* 'eyes' with an *-n* extension also IE **uorn-*. It is "extremely widespread and certainly old in Indo-European". Note esp. Mcd *bara* 'to look for, require' dial. 'to look'.

Bur *phuṭ* 'seeing, looking', *phuṭ étas* 'open one's eyes, look', *phuūt étas* 'glance at, look at, peek'. Compare with IE **bheudh-* 'pay attention, be observant' e.g. Av *baodaiti* 'notices, observes', Skt *bódhati* 'is awake, wakes up; observes, understands'.

Bur *wal -mán-* Ys 'keep guard over, stand guard, watch' (plus dat. of object), *wal -i-* 'to be under guard'. From IE **uel-* 'see' e.g. OIr *fili* 'seer', Wels *gweled* 'see' [included here because of the IE meaning].

[73] *seed*

Ys *gonó*, Hz Ng *gunó* 'seed (not of cereals); sperm, semen'. Related directly to Gk *gónos* 'sperm, semen' from IE **gēnh₁₋*, (also **gēn-*, **gēnē-*, **gēnō-*, **gōnh₁₋*, **gēh₁₋*) in words for 'beget; bear; produce; be born' : OLat *genō* 'beget', Lat *gignō* 'produce', Skt *jánati* 'begets', As for the verbal stem, note Bur *du-gún-* 'ripen, mature' and *d-šqun-*, (Ys **d-šqon-**) 'cause to mature; have an idea, give a stimulus, make a suggestion', which B also links with Bur *gunó*.

[74] *sit*

~Bur *hurūt-* 'sit down, sit; settle down, be settled, dwell, abide, stay, live; remain; wait; keep watch; have sexual intercourse; become pregnant', *-iurūt-* (Ys *-hurūt-*) 'cause to sit, seat', *d-iurūt-* (Ys *d-hurūt-*) 'settle; remain still; to like'. From IE **h_aer(h_x)-* 'prepare, put together', sem. closest to Av *arānte* 'they set themselves, remain' and esp. Hitt *ḫar-ap-* (*ḫarp-*) 'put down, set down'. In Bur from IE **h₂r-t-* (? > **h₂r-h₃t-*) > **hurt-* > *hurūt-*.

[75] *skin*

Bur *bat* 'skin' : IE **baiteh₂-* 'goatskin, cloak', e.g. Gk *baítē* 'shepherd's or peasant's coat of skins; tent of skins'. See [3].

[76] *sleep*

Bur *dur* '1. sleep; 2. (euphemism for) death'. From IE **der-* with zero-grade **d_ṛ-* 'to sleep', e.g. Lat *dormiō* 'sleep', OChSl *dremljō* 'doze, slumber', Gk *édrasthon* 'slept'.

[77] *small*

Bur *phúko* adj. 'small, tiny' (B 334) < IE **pau-ko-s* 'little, few; small', Lat *paucus* 'little', OHG *fōh* 'few' < **pau-* 'little, few'.

[78] *smoke* ----- not found. (various loanwords from IA)

[79] *stand*

Bur *d-stay-* 'prop up, support, stay; protect from; hold up (an enemy), withstand; assist a person; support, reinforce; fix (a stone)', Ys *d-sta-* 'put up and prop up.' Compare with IE **stā-* > **sta-jā* or **st-ē*, e.g. the Phrg *astat* < **at-stāt* and *sta-* 'stand', PSI **stojati* 'stand', also **stati*; OInd *tiṣṭhati* 'stands', Pers *istādan* 'stand', OHG *stān* 'to stand'. See also *tree*

[90] and *leaf* [46].

[80] *star*

H_z Ng *asií, hasí*, in Ys *asúmun, asúmen, hasúman* 'star' related to *háas* 'glowing embers' [2]. The second part of the Ys is either a form of the Bur verb *man-* 'be, become' from IE **men-* 'remain, stay' or related to suffixes derived from it, as in Bur *hínuman, hánuman* 'by itself, alone' or as in *-chámanum* (L *-isamanum*) 'first-born'. It could be a remnant of the IE suffix *-m_ṇ-* or *-men-* / *-mon-*. From PIE **h₂eh_x-s-* 'burn, glow' (> 'star, ember'): as in the derivatives Hitt *hasterza, hastera* 'star', Gk *astēr* 'do.' (< **Has-tēr*).

[81] *stone*

Bur *dan* 'stone'. From IE **(s)toi-no-* < **(s)tāi-* 'stone' : OIcl *teinn*, OEng *stan*, OHG *stein*, all: 'stone', PSI **stēna* 'rock'.

Ys *goró*, Hz Ng *guró* ‘stone’. From IE **g^wer-*, **g^wor-* e.g. OInd *giri-h* ‘mountain’, OChSl *gora* ‘mountain’, and esp. Alb *gur* ‘stone, rock’ also Rom *gruiu* ‘hill top; hill slope’.

Bur *handó* ‘stone’ NH. From PIE **h_xond-* / **h_xnd-* ‘stone, rock’, e.g. Mlr *ond* ‘stone, rock’, OInd *ádri-* ‘stone’.

[82] *sun*

Bur *sa* x, pl. *sámuč* ‘sun; day; daylight’. Compare with IE **seh_aul-*, and esp. the gen. **sh_au-én-s* ‘sun’. E.g. OEng *sunne*, OChSl *slъньсе*, Av *hvar*, Skt *svàr* ~ *súr(y)a* all: ‘sun’ and further Toch *swāñco* ‘light beam, sunlight’. The basic Bur form is contained in *san* ‘1. adj. ‘light, bright; shining; 2. noun *y* ‘light; brightness; a specific light’ from **san-(n)-ko* which can be derived from an IE **suen-* + the suffix(es) *-(n)-ko*.

[83] *swim*

Bur *tam dél-* ‘bathe, swim; wash o-self’, *chilulo tāām ét-* ‘to soak, immerse’. From IE **teng-* ‘to moisten, soak’: Lat *tingō* ‘moisten’, OHG *thunkōn* ‘dunk’, Gk *téngō* ‘moisten’. The change *n* [*ng*] [*nk*] > *m* is well represented in Bur.

[84] *tail* ----- not found.

[85] *that*

Bur *y*-class, sg. Bur *ité, et*, Ys *te, ot y sg* ‘that one, it’. *ité, et* ‘it’, derives very precisely semantically from IE **it* ‘it’ or **h₁id-*, e.g. Lat *id* ‘it’, OEng *it* ‘it’, Goth *is/ita* ‘he, it’, OInd *idám* ‘it, this’. [Refer to 4.1.]

[86] *this*

The Bur proximate demonstrative pronouns are formed by prefixing *kho-*, or *kh(i)-* to the distal demonstrative pronouns: e.g. Ng *kho-té*, Hz Ys *guté*, Bur *kho-t y sg* ‘this one’ to Bur *ité, et y sg* ‘that one, it’. The proximate demonstrative correlates directly with the IE dem. pronoun **ko-* ‘this one’ with variant form **ki-*: OIr *cē* ‘here, on this side’, Eng *he*, OHG *hiu-tagu* ‘on this day, today’, Lith *šìs* ‘this’, Lat *cis* ‘on this side of’, Hitt *ki* ‘this’, *kinun* ‘now’. [Refer to 4.1.]

[87] *thou*

~Bur *un, un, um* ‘you (sg.)’ also *ungo* ‘you here’. Can be correlated with IE **tuh_xom* i.e. **tum-* + *-g* by analogy with the 1 p. sg. (prior to the change

g > y > j,) (as in Hitt **teg*, Acc. **tug-*). Sihler reconstructs **ti/ī* (*tu/ū*). Bur has the adj. *thum* ‘other, another’ (which derives from *thi* ‘other; -else; other than, apart from’) which could be related to the 2. p. sg. pronoun. The loss of *t-* could have been caused by the need to differentiate from the 3. p. pronouns. [Refer to 3.3]

[88] *tongue*

Ys *-yúnus*, in Hz Ng *-úmus* ‘tongue’. The Ys form is older. From IE **(d)ṅǵhū-* ‘tongue’ with initial *d-* absent as in Slavic and Baltic e.g. OChSl *językъ* ‘language, people’, OPrus *insuwis*, OLat *dingua* (Lat *lingua*), TochA *käntu*, OInd *juhū*, *jihvā*, all: ‘tongue’.

~[89] *tooth* [There are some related developments as to ‘molar’ and ‘bit’.]

[90] *tree*

Bur *tom* ‘tree’. From IE **stéh₂mōn* ‘what stands’, esp. TochA *štām* ‘tree’, TochB *stām* ‘tree’, OEng *stemn* ‘stem’, OHG *stam* ‘stem’, Goth *stómin* ‘stem’. In Bur perhaps from the gen. form given by M-A, i.e. **sth₂mnós* > **tumnos* > **tomos* > *tom*. For the underlying verb, see [79] *stand*, and [46] ‘leaf’.

[91] *two*

Bur *altó yz*, *altác*, *altá x*, *altán h* ‘two; a pair of’. The Ys form *haltó* is older. From IE **h₂al-* ‘other’: esp. **h₂elteros* in Lat *alter* ‘other, other of two’ or from **h₂elio-* ‘second’ in Gaul *allos* ‘second’. Bur also has *hóle*, Ng also *hólo* ‘1. out, outside; 2. (postposition) out of’ and the adv. *hólum* ‘from outside’ and as adj. ‘outside, other, foreign, strange’.

~[92] *walk*

Various possibilities with verbs denoting ‘go’.

[93] *warm (hot)*

Ng, Ys *garúm*, Hz *garúrum* ‘hot, warm; friendly’, also *garú* and *garúki* ‘spring’. Not found in the surrounding IA or Irn languages and Berger rightfully considers them part of the Burushaski autochthonous vocabulary. From IE **ǵ^wher-* ‘to heat, warm’, zero-grade **ǵ^wh₂-* esp. like PSI **gorēti* ‘to burn’, **garъ(jъ)* ‘burn’. but not from **ǵ^whermós* ‘warm’.

[94] *water*

HZ Ng *chil* Lei. gives Ng *tsil* pl. *siliming and silmitshang*. Ys: *çel* ‘water; juice, sap’, also *d-sil-, d-sili-*, (NH also *d-çhil-*) ‘make wet, water intensively’, and further *du-súlġu-* ‘become fluid, watery’. From PIE **suel, *sul-* ‘to wet, moisten; flow; liquid, moisture’ e.g. Lith *sulà* ‘sap’, OHG *sol* ‘mud, puddle’, OIcl *sulla* ‘to swill’, OE *swillan, swilian* ‘flood with water so as to wash or rinse, drink in large quantities’.

Bur *budóo* ‘rinsing water’, HZ also ‘water which becomes warm in the sun’. Compare with IE **uodō-* or **uódy-* or **uod-ōr*, suffixed *o*-grade from **ued-* ‘water; wet’, e.g. Goth *watō*, PSI **vodà*, Gk *húdōr*, Hitt *wātar*, OInd *udnāh* (gen.) ‘water’, also the Phrygian gloss *bédu* ‘water’ < **vedū* < IE **uedō*.

[95] *we*

Bur *mi* ‘we’ and the pronominal prefix *mi- /mí- / mé- / mée-* can be correlated directly within IE with Arm *mek’*, Blt-Sl **mes* e.g. OPrus *mes*, Lith *mēs* and PSI **my* ‘we’.

~[96] *what*

[Berger states that all Burushaski interrogative/relative pronouns are derived from the stems *me-*, *be-* or *ami-* and indicates that these are most probably of identical origin, noting the *m : b* alternation in Burushaski.] HZ Ng *be* ‘what?, how?; some, any’, Ys *bo*. Corresponds with the IE interrogative/relative pronoun **me-*, **mo-* : e.g. TochA *mäkte* ‘how’, *mānt* ‘how’, *mäksu* ‘who’ (interrogative, relative), Hitt *mān* ‘whether, when’, *masi* ‘how much, how many’, OIr *mā* ‘when’ (also **mi*, **me-*). [See 3.3.]

[97] *white*

Bur *burúm* ‘white’. From IE **bher-* ‘bright, shining; brown’, e.g. the suffixed variant form **bhrū-no-*, OFr *brun* ‘shining’, which Pokorny correlates with **bherǵ-* ‘to shine; bright, white’. Under one interpretation OSl *bronŭ* ‘white, variegated’, Russ *bronyj* ‘white, variegated’ and TochA *parno*, TochB *perne* ‘shining’ are included in this set.

[98] *who*

Bur *men* sg. and h pl., also *ménik* pl. ‘who?, what?; someone, anyone’. *men ke* is used as an indefinite relative pronoun, also in the meaning of ‘many’. See the discussion in *what* [96], and 3.3.

[99] *woman*

~ Bur *gus* ‘woman (married); female (of animals)’. It is tempting to seek a (banal?) correlation with Bur *-gus* ‘woman's privy parts, vulva’ (which Tikkanen p.c., suggests could be related to Ys *-khús* ‘anus’), and thus from IE **kutsós* ‘anus, vulva’, e.g. Gk (Hesychius) *kūsós* ‘anus, vulva’.

Bur *génis* ‘queen, Mir's wife, rani’ also ‘gold’, Ys *géndes*. From IE **g^wénh_a-* e.g. OEng *cwene* ‘woman, prostitute, wife’, OPruss *genna* ‘wife’, OChSl *žena* ‘wife, woman’, Gk *guné* ‘woman, wife’, Av *gānā* ‘woman, wife’, Skt *gnā-* ‘goddess, divine female’ and esp. OEng *cwēn* ‘woman, wife, queen’, Eng *queen*, with a suffix *-d* or *-di*, if the Ys form is primary. (Cp. with forms like Lat *fordus* ‘load’ < **bhor-d-*, or in Bur *gurdin* ‘fat man’ < IE **g^wr-du-s* ‘fat’.)

[Included here because it corresponds with the IE generic term for ‘woman’.]

[100] *yellow*

Bur *hále iwát* ‘yellowish, yellowy, reddish’ and *hal* ‘fox’. From PIE **h₁elu-* ‘dull red, yellowish’ : OHG *elo* ‘yellow’, Av *auruša* ‘white’, OInd *aruša-* ‘reddish, golden’.

~ Ys *iškárk*, in Hz Ng *şikárk* ‘1. brass, copper; 2. yellow, pale’. Comparable with IE **(s)ker-g-* < **(s)ker-* echoic root ~ ‘sound’ (incl. ‘to clink, tinkle’), esp. Thrac *skarkē* ‘coin’, correlated with Lett *skards* ‘iron, tin (plate), sheet metal’. The colour term would derive from the colour of the metal, and the metal from an echoic root.

These direct and precise correspondences in core vocabulary are remarkable and show a very close correlation between Burushaski and Indo-European. They also demonstrate that Burushaski is definitely an Indo-European language.

6. Conclusions

All the evidence presented in this paper at the phonological, morphological and lexical level demonstrates clearly and unequivocally that the language isolate Burushaski is at its core an Indo-European¹⁹

¹⁹ Within the Indo-European-Burushaski correspondences, Burushaski continues in many cases old and widespread IE stems, but also displays a marked affinity with the so-called North-Western IE languages: Slavic, Baltic, Thracian, Albanian, Germanic, Tocharian, Phrygian, Italic and Celtic (grouping by Hamp 1990, q. in Mallory-Adams 2006: 74). Burushaski has the largest number of isoglosses with North-Western IE, e.g. this is

language, perhaps creolised in contact with another non-Indo-European language. The grammatical correspondences in the case system and in the category of number, in the adjectival suffixes, in all of the demonstrative pronouns and adverbs, the personal pronouns, partially in the numerals, in the entire non-finite verbal system, verbal suffixes and prefixes outline the IE make up of Burushaski. A language comparison that has a large number of grammatical correspondences is significantly much stronger.

At the lexical level, the evidence is even more powerful. There are 530 Burushaski etymologies of Indo-European origin, that are not of Indian or Iranian provenance. The phonological correspondences are systematic and consistent, and they take into account the synchronic variation in Burushaski. The phonological system and borrowed lexemes indicate

that there is a non-core linguistic layer in the language that needs to be investigated further. The semantics in the comparisons is precise, direct and specific, with little to no semantic latitude which is an important prerequisite for valid results.

The correlations are in core, essential vocabulary. It is remarkable that in 80 words of the Swadesh 100 list Burushaski corresponds well with Indo-European. The coherence of the vocabulary of anatomical parts (67), kinship terms (28) as well as the shepherd vocabulary (32) provides solid evidence of a relationship. We cannot emphasise enough the importance of the fact that there are 101 (independent) verbs and 67 periphrastic verbal constructions shared by the two entities. It is also of great value that in the Burushaski material the words are not in isolation but have many derivatives, which strengthens the accuracy of the forms.

While we have vacillated at times between two positions (sister relationship with Indo-Hittite vs. North-West Indo-European) we choose

evident in the close to 70 anatomical terms where there are many important correspondences with Slavic (in particular), Baltic, Germanic, Italic (Latin) and Celtic yet also with Greek (for a full discussion of the stratification of these terms see Čašule 2003a: 56-59). In the vocabulary (141 stems) involving reflexes of Indo-European gutturals, there are 30 stems where Burushaski aligns itself with NWIE (Čašule 2010). This pattern dominates throughout the correspondences. Burushaski has over 30 isoglosses with the Phrygian language (Chapter 2 of Čašule 2017) in words denoting ritual and burial but also in common vocabulary (and in many (30) personal names). The scarce attestation of Phrygian makes these numerous correspondences all the more important. An important layer are the correlations with the Balkan substratum esp. in the shepherd vocabulary but also wider, as manifested in Albanian and Macedonian and Bulgarian.

in the final analysis the position whereby Burushaski should be seen as an Indo-European Ancient Balkan language, very likely Phrygian or a language related to it, which has preserved very well the core IE vocabulary and a large section of its grammar and which developed through creolization²⁰ (mostly reflected in non-core lexis and some grammatical structures) with a language yet to be uncovered. The remarkable Burushaski isoglosses with unique Slavic words (32 of them) (Čašule 2017b) appear to indicate that they were borrowed from Burushaski into Slavic, and that both entities in the remote past were in close contact.

Bengtson and Blažek in their lengthy discourse mostly present their Dene-Caucasian material. Unfortunately, in regard to Burushaski it does not measure up well. There are problems in the consistency of the phonological correspondences – especially in the vocalism, and we believe that the vowels are equally important in etymological analysis, at any depth. In our comparisons they are even more consistent than the consonantal correspondences. Semantic latitude is another problematic aspect – once we start extending by distant association the semantics, we are sure to get invalid results. The words are given in isolation, without derivatives. The scanty grammatical evidence is also worrying.

We have addressed most if not all aspects of BB's criticism of our hypothesis.²¹ In a number of cases their synchronic analysis of Burushaski is flawed. The criticism is also disablingly incomplete as it addresses only a very small part of our work in the time frame of their article. Some phonological and morphological explanations are typologically strange.

We are not in a position to assess and evaluate the Dene-Caucasian hypothesis in itself. In regard to Burushaski, DC is most certainly *not* at

²⁰ Eric Hamp (2013: 8) who is a strong supporter of our work, marks Burushaski within the correlation with Indo-Hittite as “creolistic”.

²¹ Our work has been received very favourably by the eminent linguists, the Caucasologist Georgij Klimov and the Iranist Džoi Edel'man (2004), also Burushaski specialists; Vladimir P. Neroznak (1998); the Urdu, Dardic and Burushaski specialist Elena Bashir (1999); the eminent Indo-Europeanist Paul Friedrich (2011, letter to E. Bashir); José Andrés Alonso de la Fuente (2006); the eminent Danish Indo-Europeanist Jens Elmgaard Rasmussen (p.c.) (1997); and esp. the doyen of Indo-European studies Eric P. Hamp (2012) (2013). Most recently in Lyle Campbell's (2017) capital volume *Language isolates*, Alexander Smith (2017: 17) considers that the exact nature of the Indo-European correlation should be clarified and concludes that “the proposals [for the origin of Burushaski] involving Indo-European (IE) merit serious consideration”.

the core or even at the foundation of the language. There is a possibility that Burushaski might have been in contact with, say, with a Caucasian or a Yeniseian language (the actual source of any borrowings should be narrowed down) and perhaps some of BB's examples could be a testament to this.

In any case, the proponents of the Dene-Caucasian historical grouping of languages (without Burushaski) should be commended for their effort to delve deeper in our language histories.

Abbreviations of sources cited

- B = Berger, Hermann. 1998.
BB = Bengtson, J. and Blažek. 2011.
BER = Georgiev, Vladimir et al. 1971-
BYs = Berger, Hermann. 1974.
E-K = Edel'man, Džoi. I. and Klimov, Georgij. A. 1970.
ESSJ = Trubačev, Oleg. 1974-
G = Gluhak, Alemko. 1993.
IEW = Pokorny, Julius. 1959.
L = Lorimer, David L.R. 1938.
L I= Lorimer, David L.R. 1935.
LYs = Lorimer, David L.R. 1962.
M-A = Mallory, James P. and Adams, Douglas Q. (eds.). 1997.
M-A2 = Mallory, James P. and Adams, Douglas Q. 2006.
T = Turner, Ralph L. 1966.
T-P = Tiffou, Étienne and Pesot, Jurgen. 1989.
Tiff = Tiffou, Étienne (2014)
Wat = Watkins, Calvert. 2000.
Will = Willson, Stephen R. 1999.

References

Alonso de la Fuente, J.A. (2006) El burušaski, ¿una lengua aislada?. *Revista Española de Lingüística*, Vol. 35/2, 551-579.

Bailey, H.W. (1968) *Saka Documents*, Text Volume. *Corpus Inscriptionum Iranicarum*, Part II, Vol. 5. London: Percy Lund, Humphries and Co. Ltd.

- Bashir, E. (1999) Review of Čašule 1998. *Pakistan Studies News*. Newsletter of the American Institute of Pakistan Studies. New Series 3, pp 5; 12-13.
- Bengtson, J.D. and V. Blažek (2011) On the Burushaski-Indo-European hypothesis by I. Čašule". *Journal of Language Relationship* 6: 25-63.
- Bengtson, J.D. and V. Blažek, (2012) Comments on Ilija Čašule's Correlation of the Burushaski pronominal system with Indo-European and phonological and grammatical evidence for a genetic relationship. *Journal of Indo-European Studies*, Vol. 40, 1-2: 156-162.
- Berger, H. (1974) *Das Yasin Burushaski*. Wiesbaden: Otto Harrassowitz.
- Berger, H. (1985) A survey of Burushaski studies. *Journal of Central Asia*. Vol. VIII: 33-37.
- Berger, H. (1998) *Die Burushaski-Sprache von Hunza und Nager*. Teil I. *Grammatik*. Teil II. *Texte*. Teil III. *Wörterbuch*. Burushaski-Deutsch; Deutsch-Burushaski. Neuindische Studien 13. Wiesbaden: Harrassowitz Verlag.
- Berger, H. (2008) *Beiträge zur historischen Laut- und Formenlehre des Burushaski*. Neuindische Studien 15. Wiesbaden: Harrassowitz Verlag.
- Bomhard, A.R. (2008) *Reconstructing Proto-Nostratic*. Vol. 1-2. Leiden-Boston: Brill.
- Bomhard, A. and I.C. Kerns (1994) *The Nostratic Macrofamily: A Study in Distant Linguistic Relationship*. New York: Mouton de Gruyter.
- Brown, K. and S. Ogilvie (2009) Burushaski. *Concise encyclopedia of languages of the world*. Oxford: Elsevier. 175-179.
- Buck, C.D. (1949) *A Dictionary of selected synonyms in the principal Indo-European languages*. Chicago-London: University of Chicago Press.
- Buddruss, G. (2001) Review of : Berger, Hermann (1998): *Die Burushaski-Sprache von Hunza und Nager*. *Orientalistische Literaturzeitung* 96/1. 153–156.

Campbell, L. (2017) *Language isolates*. London and New York: Routledge.

Čašule, I. (1998) *Basic Burushaski etymologies*. (The Indo-European and Paleobalkanistic affinities of Burushaski). Munich-Newcastle: Lincom Europa.

Čašule, I. (2003a.) Burushaski names of body parts of Indo-European origin, *Central Asiatic Journal*, 47/1: 15-74.

Čašule, I. (2003b.) Evidence for the Indo-European laryngeals in Burushaski and its genetic affiliation with Indo-European. *The Journal of Indo-European Studies*, 31/1-2: 21-86.

Čašule, I. (2004) Burushaski-Phrygian lexical correspondences in ritual, myth, burial and onomastics. *Central Asiatic Journal*, 48/1: 50-104.

Čašule, I. (2009a.). Burushaski shepherd vocabulary of Indo-European origin. *Acta Orientalia*, Vol. 70: 147-195.

Čašule, I. (2009b.) Burushaski numerals of Indo-European origin. *Central Asiatic Journal*, 53/2: 163-183.

Čašule, I. (2010) *Burushaski as an Indo-European “kentum” language: Reflexes of the Indo-European gutturals in Burushaski*. Munich: Lincom GmbH.

Čašule, I. (2012a.) Correlation of the Burushaski pronominal system with Indo-European and phonological and grammatical evidence for a genetic relationship. *Journal of Indo-European Studies*, Vol. 40, 1-2: 59-154.

Čašule, I. (2012b.) Macedonian and South Slavic lexical correspondences with Burushaski. *Balkanistica*, Vol. 25: 221-256.

Čašule, I. (2012c.) Correlation of the Burushaski pronominal system with Indo-European and phonological and grammatical evidence for a genetic relationship. Response to discussants. *Journal of Indo-European Studies*, Vol. 40, 1-2: 164-172.

- Čašule, I. (2014a.) Burushaski kinship terminology of Indo-European origin. In: Owen-Smith, Thomas / Hill, Nathan eds. *Trans-Himalayan linguistics. Historical and descriptive linguistics of the Himalayan area*. New York: De Gruyter, pp. 181-220.
- Čašule, I. (2014b.) Names of plants of Mediterranean and Balkan origin in Burushaski. *Himalayan Linguistics*, 13(2). 1-8. himalayanlinguistics_23702. Retrieved from: <http://escholarship.org/uc/item/8kx5w9qw>
- Čašule, I. (2014c.) Evidence for a Burushaski-Phrygian connection. *Acta Orientalia*, 75: 3-31.
- Čašule, I. (2016) *Evidence for the Indo-European and Balkan origin of Burushaski*. Munich: Lincom Europa.
- Čašule, I. (2017a.) *Burushaski etymological dictionary of the inherited Indo-European lexicon*. Munich: Lincom Europa.
- Čašule, I. (2017b.) “Burushaski and unique Slavic isoglosses”. *Himalayan Linguistics*. 16, 2: 1-25.
- De Bray, R. et al. (1998) *Routledge Macedonian-English dictionary*. London and New York: Routledge.
- Diakonoff, I.M. and V. P. Neroznak (1985) *Phrygian*. New York: Caravan Books Delmar.
- Edel'man, D. (2004) Review of: van Skyhawk, H. 2003. *Burushaski-Texte aus Hispar* (Materialen zum Verstandnis einer archaischen Bergkultur in Nordpakistan). *Voprosy Jazykoznanija*. Vol. 1:151-156.
- Edel'man, D. and G.A. Klimov. (1970) *Jazyk burušaski*. Moscow: Nauka.
- Eichner, H. (1972) Die Etymologie von heth. *mēhur*. *Münchener Studien zur Sprachwissenschaft* 31: 53-107.
- Fortson IV, B.W. (2004) *Indo-European language and culture*. Oxford: Blackwell Publishing.

Gamkrelidze, T.V. and V.V. Ivanov, (1984) *Indoevropskij jazyk i indoevropejci*. Tbilisi: Tbilisi State University.

Georgiev, V. et al. (1971) *Bŭlgarski etimologičen rečnik*. Bŭlgarska akademija na naukite. Institut za bŭlgarski ezik. Sofija: Izdatelstvo na Bŭlgarskata akademija na naukite.

Gluhak, A. (1993) *Hrvatski etimološki rječnik*. Zagreb: A. Cesarec.

Hamp, E. (1990) The pre-Indo-European language of northern (central) Europe. In Markey, Thomas L. and John A. C. Greppin (eds). *When worlds collide: Indo-Europeans and Pre-Indo-Europeans*. Ann Arbor: Karoma. 291-305.

Hamp, E. (2012) Comments on Čašule's "Correlation of the Burushaski pronominal system with Indo-European. *Journal of Indo-European Studies*, Vol. 40, 1-2: 154-156.

Hamp, E. (2012) Review of Čašule 2012a.

Hamp, E. (2013) The expansion of the Indo-European languages: An Indo-Europeanist's evolving view". *Sino-Platonic Papers*. Number 239.

Huld, M.E. (2012) Comments on Čašule's Correlation of the Burushaski pronominal system with Indo-European. *Journal of Indo-European Studies*, Vol. 40, 1-2: 162-164.

Illič-Svityč, V.M. (1976) *Opyt sravnenija nostratičeskix jazykov*. Vol. 2. Moskva: Nauka.

Kapović, M. (2006) *Reconstruction of Balto-Slavic personal pronouns (with emphasis on Accentuation)*. PhD dissertation. University of Zagreb (Croatia).

Katz, J.T. (1998) *Topics in Indo-European Personal Pronouns*. PhD dissertation. Cambridge, MA: Harvard University.

Klimov, G. and D. Edel'man (1972) K nazvanijam parnyx častej tela v jazyke burušaski. *Etimologija*: 160–162.

- Lehmann, W.P. (2002) *Pre-Indo-European*. Journal of Indo-European Studies Monograph Number Forty One. Washington: Institute for the Study of Man.
- Lorimer, D.L.R. (1935) *The Burushaski language*. Vol. 1. *Introduction and grammar with a preface by George Morgenstierne*. Oslo: Instituttet for Sammenlignende Kulturforskning. H. Aschehoug and Co.
- Lorimer, D.L.R. (1938) *The Burushaski language*. Vol. 3. *Vocabularies and Index*. Oslo: Instituttet for Sammenlignende Kulturforskning. H. Aschehoug&Co.
- Lorimer, D.L.R. (1962) *Werchikwar-English vocabulary*. Oslo: Norwegian Universities Press.
- Mallory, J.P. and D.Q. Adams. (eds.) (1997) *Encyclopedia of Indo-European culture*. London–Chicago: Fitzroy Dearborn Publishers.
- Mallory, J.P. and D.Q. Adams (2006) *The Oxford introduction to Proto-Indo-European and the Proto-Indo-European world*. Oxford: University Press.
- Mann, S.E. (1984-1987) *An Indo-European comparative dictionary*. Hamburg: Helmut Buske.
- Neroznak, V.P. (1978) *Paleobalkanskije jazyki*. Moskva: Nauka.
- Neroznak, V.P. (1998) Foreword to Čašule (1998): ix-xiii.
- Orel, V. (2011) *Russian etymological dictionary*. (Vols. I-IV). San Bernardino: Theophania Publishing.
- Parkin, R.J. (1987) Tibeto-Burman and Indo-European loans in Burushaski kinship terminology. *Bulletin of the School of Oriental and African Studies*. 50 (2): 325-329.
- Pokorny, Julius. (1959) *Indogermanisches etymologisches Wörterbuch*. Bern-Munich.

Rasmussen, J.E. (1999) *Selected Papers on Indo-European Linguistics*. [Miscellaneous problems in Indo-European languages VII], Copenhagen: Museum Tusulanum Press (esp. 644-656).

Schmidt, G. (1978) *Stammbildung und Flexion der indogermanischen Personal-Pronomina*. Wiesbaden: Harrassowitz.

Sihler, A. (1995) *New Comparative Grammar of Greek and Latin*. Oxford: University Press.

Skok, P. (1974) (I-IV). *Etimologijski rječnik hrvatskoga ili srpskoga jezika*. Zagreb: Jugoslavenska akademija znanosti i umjetnosti.

Smith, Alexander D. (2017) Burushaski. In Campbell, Lyle (ed.) *Language isolates*. London and New York: Routledge, 117-138.

Szemerényi, O.J.L. (1996) *Introduction to Indo-European linguistics*. Oxford: University Press.

Tiffou, É. (2014) *Dictionnaire du bourouchaski du Yasin*. Louvain-la-Neuve: Peeters.

Tiffou, É. (2016) Burushaski in Hock. In Hans Henrich, *The languages and linguistics of South Asia: A comprehensive guide*. 165-168.

Tiffou, É. and Pesot, J. (1989) *Contes du Yasin. Introduction au bourouchaski du Yasin*. Paris/SELAF.

Trubačev, O. [ESSJ] (1974). *Etimologičeskij slovar' slavjanskix jazykov*. Moskva: Nauka.

Turner, R.L. (1966) *A comparative dictionary of the Indo-Aryan languages*. London: Oxford University Press.

[Vasmer, M.] Fasmer, M. (1986-1987) *Etimologičeskij slovar' russkogo jazyka*. (I-IV). Moskva: Progress.

Vrabie, E. (2000) Review of Čašule 1998. *Balkanistica*, Vol. 13. 208-211.

Watkins, C. (2000) *The American Heritage dictionary of Indo-European roots*. (2nd edition). Boston: Houghton Mifflin.

Willson, S.R. (1999) *Basic Burushaski vocabulary*. Studies in Languages of Northern Pakistan, Vol. 6. Islamabad: National Institute of Pakistan Studies/Summer Institute of Linguistics.

Zarubin, I. (1927) Veršikskoe narečie kandžutского jazyka. *Kollegija vostokovedov. Zapiski* 2: 275-364.