

Stamp Seal from Beycesultan

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In this note the legend of a well-preserved stamp seal from Beycesultan, located along the upper course of the Maiandros river in present-day western Turkey, is recovered from oblivion. With a view to the fact that this stamp seal was discovered in a layer separating the Early Bronze Age ones from those of the Middle Bronze Age, it is argued that we may actually be dealing here with the earliest datable document conducted in an Indo-European tongue.

In the form of an addition to my most recent discussion of Middle Bronze Age Luwian hieroglyphic inscriptions in order to determine the region of origin of the script,¹ I drew attention to a stamp seal inscribed with a Luwian hieroglyphic legend from Beycesultan, which according to the excavators of this site, Seton Lloyd & James Mellaart (1965: 36), had come to light in a dividing line marking the transition from the Early Bronze Age (level VI) to the Middle Bronze Age (level V), so dating *c.* 2000 BC.²

¹Woudhuizen 2011: section I.2.1, but actually to be found in an additional note on p. 88 to section I.2.2. on full legend seals as well as in the postilla to section I.2.1 on pp. 464-467.

²Lloyd & Mellaart 1965: 36 "The integrity of these pavements on the south side of the trench is important to emphasize, because, at a point about 15 cm. beneath the earlier one, a stamp-seal of special interest was found (ASVIII, Pl. XXVIa). For the purpose of dating this seal, the lower of the two pavements must be considered as constituting the dividing-line between Levels V and VI, and accordingly between the Early and Middle Bronze Ages." For recent confirmation that Beycesultan Level VI indeed belongs to the Early Bronze Age III, and that hence Level V constitutes the earliest phase of the Middle Bronze Age, see Düring 2011: 288-289, in which work the turning point between the two phases in question is placed *c.* 2000 BC (my thanks are due to Dr. J.G. Dercksen of the Netherlands Institute for the Near East [Dutch abbreviation NINO] at Leiden for kindly drawing my attention to this publication).



(a) Schachermeyr 1957-8:199, Abb. 22.



(b) Lloyd & Mellaart 1958: Pl. XXVIa.



(c) Mora 1987: Tav. 109, XIIb 3.3.



(d) Bossert 1959: Abb. 6.



(e) Reconstruction by the author.

Figure 1. Stamp seal from Beycesultan.

The legend of this seal, of which a photograph has been published by Seton Lloyd & James Mellaart in their preliminary report of 1958 (pl. XXVIa [= our Fig. 1b]), should have been included in my section I.2.1 on the origin of Luwian hieroglyphic, but, in my defense, it must be admitted that it has been very thoroughly hidden away by Clelia Mora (1987) in her late group XIIb as no. 3.3.³ Nevertheless, she is outspoken about the dating of this stamp seal to “fine III millennio - inizio II” (Mora 1987: 350), i.e. *c.* 2000 BC. Yet another photograph is published

³Mora 1987: 332 with refs.; the photograph presented in her Tav. 109 is reproduced here as our Fig. 1c.

by Schachermeyr 1957-8: 199, Abb. 22 (= our Fig. 1a), whereas Bossert 1959: Abb. 6 presents a drawing of the legend on the stamp side (= our Fig. 1d). Note that only in the drawing is the top side of the seal reproduced at its proper place.

The reading of the legend of the aforesaid seal is, notwithstanding the fact that it is completely preserved, hampered by the fact that the script is highly cursive, almost linear (which suggests its regular use over a long period),⁴ so that the individual signs are difficult to identify. As a matter of fact, this latter observation forms the actual reason for the tendency among scholars, including, as we have noted, Clelia Mora, to a late dating of the inscription in question (it is true that Mora, as we have just noted, assigned an early date to the seal and its inscription, but, as we have also just observed, her hesitations about this early dating find expression in the fact that she catalogued it among a much later group, of which the representatives generally date to the 13th century BC, instead of to her first group, where it actually belongs).⁵ The same tendency is also observable in its treatment by Piero Meriggi of 1966(: 60), who, however, clearly expresses his reservations in regard to this topic. On the positive side, he convincingly identified in the middle line of the legend of our stamp seal from Beycesultan, which according to his analysis runs in right-to-left direction of writing, *376 *i*, or, in terms of the so-called “new reading”, *zi*, and *215 *ha*. These identifications had already been proposed by Bossert 1959: 80, who,

⁴The *ductus* of the signs of yet another Middle Bronze Age inscription, this time on a vessel from Kültepe-Kanesh, published in Hawkins 2011, to which my attention was kindly drawn by my colleague and friend Willemijn Waal, also makes a cursive or “modern” impression, at least in so far as the first sign, the donkey head *100 (numbering of the Luwian hieroglyphic signs according to Laroche 1960), is concerned. Cf. Woudhuizen 2011: 84; 464.

⁵As kindly pointed out to me by Willemijn Waal, again, an inscribed stamp seal in the form of a foot, which, in the light of the parallels, is datable to the first quarter of the second millennium (Erdem 1969: 114-115; tav. IVb), received a similar treatment by Mora, who, notwithstanding her suggestion of an early dating, be it this time with a question mark, catalogued it in her late group XIIIb, again, in this particular case *sub* no. 3.9, cf. Woudhuizen 2011: 464-465.

however, after these two signs reads *450 à, which, as I will argue below, is mistaken.

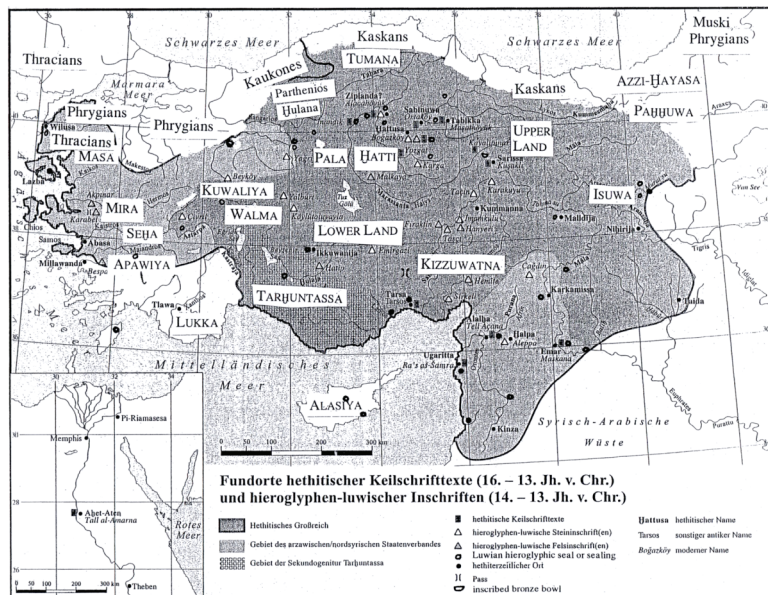


Figure 2. Map of Anatolia.

Now, in my opinion the legend of our stamp seal starts at the top side with the sign in the form of four vertical strokes, *391 *m, má, mi*. This in turn has a horizontal stroke below it, identifiable as *383, 2 *+r(a/i)*. In the light of the relevant parallels, in all probability these two signs form a combination, reading *mi+ra*, which cannot be dissociated from the country name *Mira* as known from later Luwian hieroglyphic inscriptions like the Tarkondemos seal, sealings from Boğazköy-Khattusha, the Karabel rock relief, the rock relief at Latmos, and the seal from Perati in Attica (see Woudhuizen 2004-5: 166-167, figs. 1-2). If this analysis is correct, it may reasonably be argued on account of the use of *225 *UMINA* or *urbs* in the following line (see below) that Mira is a town, after which the country of which it was the center is later named, and that this town name is to be identified as the ancient one of modern Beycesultan. The latter site is situated near the upper course of the Maiandros river, which is probably to be identified as the Hittite *Şeha*, just south of Çivril near

the confluence with a tributary coming from the southeast that is plausibly taken for the Hittite *Aštarpa* (see Figs. 2 and 3). Some confirmation of this scenario may be provided by the fact that one of the border towns of the later country Mira is *Wiyānawanda* (= classical Oinoanda) (Bryce 2010: 475, note 47), which lies at the upper course of the Xanthos river or Hittite *Šiyanta*, just south of Beycesultan (see Woudhuizen 2010-11). It furthermore deserves attention in this connection that it is directly associated with the province of *Kuwaliya*, situated, as deducible from the inscription on a stele from the region of Afyon (Woudhuizen 2011: 125-126; Woudhuizen *forthc.*, section 3), in that latter region just to the northeast of Beycesultan (see Figs. 2 and 3).⁶

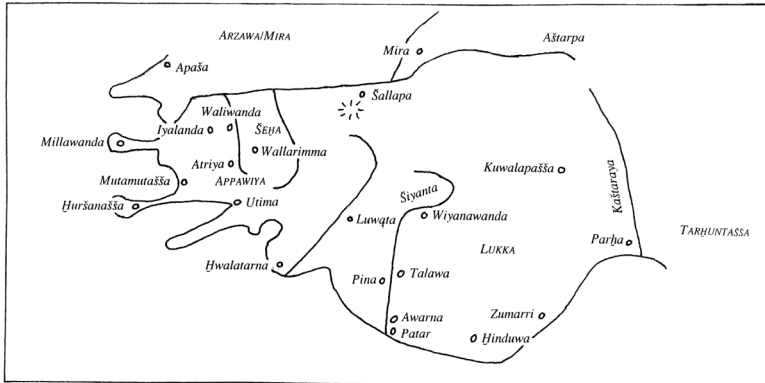


Figure 3. Map of southwest Anatolia.

However this may be, what primarily concerns us here is that the instance of *376 *i, zi* in the second line of the legend is preceded by the river sign *212 *ḪAPA* or *flumen*, with syllabic value *ná*, written vertically instead of horizontally in order to save space. In fourth position, after the third sign *215 *ḫa*, one can easily identify the triangular outline of *225 *UMINA* or *urbs* (not to be

⁶Note that as a result of the political reforms by Mursilis II (1322-1295 BC) the combination of Mira-Kuwaliya forms the successor of *Arzawa*, whose capital has been *Apaša* “Ephesos”: evidently, the center of gravity in the region has shifted from the Aegean coast, where Ephesos lies, to the eastern border with the Hittite lower land, where, according to the reconstruction advocated here, Beycesultan alias *Mira* is situated.

confused with the likewise triangular *17 *HANTAWAT* alias *rex* or *370 *ASU* alias *bonus*₂, with syllabic values [*as*], *su*, of which the latter, however, is less elongated). In sum, this leads us to the following sequence: *HAPA i -ha UMINA* “the river and this town”, in which the demonstrative *i-* “this” refers back to the place-name *Mira* of the first line or top side.⁷

Next, the last sign of the second line at its extreme left side can positively be identified as *400 for the number “1000”. Now, from this point, the inscriptions turns in the third line boustrophedon-wise from right-to-left direction of writing into a dextroverse one and consists of two angular signs open at the left side (>>). In my opinion, we are dealing here with two instances of a forerunner of *386^m or *vir*₂. In any case, it seems clear that in combination with the preceding *400 “1000” we are confronted here with the title of the owner of the seal, who specifies himself as “(overseer of) 1000 men” (the repetition of *386^m may be a means to express plurality). This particular title reminds us of the one attested for a text in Early Iron Age scribal tradition from Kirçoğlu, where in phrase 3 mention is made of *HANTA_ha-ta₄ 1000 PARNAsa* “a front (man over) the 1000 of the house” (Woudhuizen 2011: 264). But much more relevant to our present purposes, because it concerns a parallel from a Middle Bronze Age text, is the title attributed to the Aleppian dignitary *Nureyala* in a text from Byblos, conducted in the epichoric script, which in line 4 of the so-called bronze tablet d reads: *wa-ka-ya-lim le lim* “from among the overseers (overseer) of the 1000”, in which *lim* “1000” stands for the political institution of Aleppo’s assembly, comparable to the Hittite *panku-* (Woudhuizen 2007: 715-716 with note 7; 719).

In sum, then, the foregoing leads us to the following trans-literation and interpretation of the legend of the

⁷In Woudhuizen 2011: 408-409 I argue that the palatalization of PIE *[Ķ] > [z], though attested for cuneiform Luwian, is—apart from one cuneiform Luwian loan (*zārta₄/i-* “(to) desire” < PIE **ĥerd-* “heart”)—foreign to Luwian hieroglyphic, so that the secondary value *zi* of the polyphonic *376 as a reflex of PIE **ĥi-* “this” in this connection is unlikely. In any case, the distinction is immaterial here as it does not affect the interpretation *per se*.

stamp seal from Beycesultan: *mi+ra* \overline{HAPA} *i* *-ha* *UMINA* *1000^m* “Mira: (with respect to) the river and this town (overseer of) 1000 men” (cf. Fig. 1e).

With a view to the dating of the stamp seal from Beycesultan to the transitional period from Early to Middle Bronze Age, *c.* 2000 BC, it is interesting to note (though not particularly unexpected since it is well known that Luwian belongs to the Indo-European language family) that it shows evidence of the following Proto-Indo-European (= PIE) features:

- (1) *391 (sign in form of four vertical strokes) *m*, *má*, *mi* as acrophonically derived from the numeral *mauwa* “4” < PIE **mēi-* “less (than the full hand with five fingers)” (Carruba 1979: 195; Woudhuizen 2008: 179);
- (2) *hapa-* (sign in form of an undulating flow of water) “river” < PIE **h₂eb^(h)-* (Kitson 1996: 88, note 22; Woudhuizen 2010: 98);
- (3) *i-* (“demonstrative” sign in form of a pointing arrow) “this” < PIE **i-/ei-* (cf. Fortson 2004: 130; Mallory & Adams 2007: 417-418);
- (4) *-ha* “and”, later also occurring in full as *-hawa* < PIE **-k^we* (Mallory & Adams 2007: 62).

In my treatment of the earliest Cretan hieroglyphic seals and sealings, stemming from the beginning of the Middle Minoan period, *c.* 2000 BC, onwards (Woudhuizen 2006: 126-132), I also noted evidence for the Indo-European language, like:

- (1) the ox-head with four vertical strokes between its horns for the value *m+UWA* corresponding to Luwian hieroglyphic *107 *m+UWA*, *mu* < PIE **mēi-* “less (than the full hand with five fingers)” and **g^wow-* “ox”, with the for Luwian hieroglyphic regular loss of the initial voiced velar;
- (2) the deer or deer-antler sign E99 (numbering of the Cretan hieroglyphic signs according to Evans 1909) for the value *rú* corresponding to Luwian hieroglyphic *102-3 *KURUNT*, *KARUWANT*, *kar*; *RU(WA)NT*, *rú*; *INARA*, characterized in connection with the first two values of this

- polyphonic sign by the typically Luwian phonetic development *karu* > *kru* > *ru* as attested from the period of the Kültepe-Kanesh period onwards (Woudhuizen 2011: 401-402, note 10), and hence likewise bearing testimony of PIE **kerh₁*- “horn”;
- (3) the “bird of prey” sign E79-80 for the value *ARA*, *ra*, corresponding to Luwian hieroglyphic *130-3 *ARA*, *ar*, *ra* < PIE **h₂er-/h₂or-* “eagle”, with loss of the regular reflex [h] of laryngeal *[h₂] as incidentally attested for Luwian and perhaps attributable to the influence of a “Proto-Celtic” or “Old [Indo-]European” substrate in the regions in question (cf. Woudhuizen 2011: 417), traceable, in my opinion at least, from *c.* 3100 BC onwards (Woudhuizen 2010: 93-110).

In regard to the dating of the beginning of the Middle Bronze Age period from *c.* 2000 BC onwards in Anatolia as well as in Crete, however, it must be admitted that the Anatolian one is much more solid than its Cretan counterpart,⁸ so that I think that as far as the earliest datable document in the Indo-European tongue is concerned, priority should be assigned to the stamp seal from Beycesultan.

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⁸Note that knowing the beginning of the Middle Bronze Age in Anatolia is historically feasible owing to the records from level II of the Assyrian trading colony or *kārum* at Kültepe-Kanesh, which cover the period from late in the reign of the Assyrian king Erishum I to the end of that of one of his successors, Puzur-Ashur II, so, according to the Middle chronology, from about the last quarter of 20th century BC to the 30s of the 19th century BC, see Bryce 2010: 23-24, with refs. to Veenhof 1998. Apart from some onomastic evidence from the Kültepe-Kanesh period bearing testimony of Hittite type of names alongside Luwian ones, the earliest texts in Hittite, thus far taken for the earliest written evidence of an Indo-European tongue, belong to the subsequent Old Kingdom period (*c.* 1680-1500 BC), see Waal 2010: 14.

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Are Latin *pons*, *pontifex* and the Indo-European cognates evidence of an *i* stem?

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Sanskrit *panthāh*, Avestan *panthā*, Old Persian *paθim*, Latin *pons* (and its compound *pontifex*), Greek *πόντος* and *πάτος*, Armenian *hun* (genitive *hni*), Old Church Slavic *ponth*, Old Prussian *pintis* cannot easily be reconciled into one single paradigm and, consequently, the exact reconstruction is debated. It has been argued that the Indo-Iranian, Latin, Armenian and Balto-Slavic forms are evidence for an *i* stem, either original (Schmidt, Bezenberger, Hirt e.a.) or of secondary and laryngeal origin (Beekes, Schrijver). Starting from the two different "*i* reconstructions" this article re-examines the Latin, Greek and Indo-Iranian cognates, and tries to account for the evolutions in the different languages. We agree with Beekes, Schrijver and De Vaan in that the Latin nominative is problematic and the Armenian form corresponds perfectly to a reconstruction **pontH*. In addition, we believe that also the compound *pontifex* and the Scythian name Παντικαπηης fit into this schema. However, we have our doubts as to the paradigm with a nominative **Hs* and an accusative **eHm*, find the independent innovation in Sanskrit and Avestan less likely, and consider the Old Persian form *paθim* not conclusive, because it is a back-formation on the nominative and especially in light of the Scythian name Παντικαπηης, which raises some questions as to the exact Iranian treatment of the Proto-Indo-Iranian cluster **nth*. We therefore believe that the original reconstruction **ponteh_s* (made by Pedersen in 1926) still has preference, despite the problems that it poses for Latin.*

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Reconstruction 1: the *i* is of Indo-European origin

The first theory is that of Schmidt (1885:370-374), Hirt (1895:249, 1921: 39,55-56, 1927:75-76,102),¹ Bezenberger (1908b), Reichelt (1901:267, 1909:156) and Kent (1953:30,52,61) who argued that the Sanskrit case forms *pathibhih*, the compound *pathikṛt* (first pointed out by Kuhn 1855:75), the Old-Persian *paθim*, the Latin genitive plural *pontium* and the Balto-Slavic forms were evidence of the fact that the original Indo-European paradigm contained an *i*. In addition, the Latin compound *pontifex* (Meringer 1890:23) and the Armenian genitive *hni* were adduced as proof for the *i* stem, but especially Bezenberger (1908a:96-97) opposed the link with the Latin form *pontifex*. Schmidt assumed a root with a lengthened grade **ponthōi-* in the nominative and accusative singular and a zero grade **pnthi-* in the oblique cases. He argued that the languages with an apparent *i* stem generalised the zero grade while Indo-Iranian preserved the original ablaut patterns. He assumed that Greek initially also preserved the ablaut but later simplified the declension by creating two different declensions, namely *πόντος* and *πάτος*. *πόντος* was based on the nominative singular, but lost the *i* element, added a nominative *s* and shortened the vowel, *πάτος* was a back creation on the oblique cases. As such, the evolution from PIE into Greek would have been the following: **ponthōi* lead to **ponthō* which created *ponthōs* with an analogical *s* to indicate the nominative masculine singular as had happened in Sanskrit and then yielded **ponthos* which finally became *πόντος*. To prove that evolution from *os* into *os* in the nominative singular was not uncommon in Greek he pointed at the doublets *κάλως* and *κάλος* and the second declension plural forms such as *κάλους* (which can be found in *Odyssey* 5,260 and *Herodotos*; LSJ quotes a nominative plural in *ως* for Attic). Meillet-Vendryès

shortcomings and errors in this article.

¹Hirt (1895:249) catalogued *manthās* as an *i* stem and since the declensions of *manthās* and *panthās* are similar, we can assume that he considered *panthās* to be an *i* stem as well. He explicitly stated this in his *Indogermanische Grammatik* III.

(1948:477-481) agreed with Schmidt that *pathibhih*, *pontu* and *pontium* pointed to an *i* stem and that the *i* in the nominative already disappeared in PIE but did not discuss the specifics of the Greek nouns, and only mentioned the Greek cognates to point at the evolution of PIE **t^h* into Greek τ (1948:57). Bezzenberger (1908b) explained the nominative *panthāh* as the result of **panthais*. He considered the Sanskrit roots *path-*, *pathay-* and *panthan-* and the use of the Avestan root *pant-* in the oblique cases and root *paθ-* in the strong cases as analogical extensions based on reinterpretation of different case forms.

Reconstruction 2: the *i* stem is of laryngeal origin

In his 1985 work on the origin of the nominal declension (1985:38) and in a short article in 1989 Beekes argued for an *i* stem which was originally of a laryngeal nature (against his assumptions in 1969, 1972, 1988, 1995 and 2010).² He suggested a paradigm **ponth₁s* in the nominative, **ponteh₁m* in the accusative and **pnth₁es* in the genitive. This was based primarily on the Old Persian form *pθim* and the Latin nominative *pons*. Beekes' reconstruction would have created the following Proto-Indo-Iranian declension: **panthHs*, **pantaHam*, **pathHas* leading to a Proto-Sanskrit declension **panthis* **pantām* **pathas*, with the aspiration being generalised throughout the entire paradigm. The most convincing piece of evidence for Beekes was the Old Persian form *pθim*, which in his opinion stood for *panθim*. He stated that interconsonantal laryngeals disappeared in Iranian and therefore assumed that this form could not be a direct continuation of a form **pontHm*. He argued that this accusative was a back-formation from the nominative **panthi* which led to this noun being transferred to the *i* stems. In a later stage both Sanskrit and Avestan would have replaced independently from each other the nominative by a form with the same vocalism as the accusative, and as such the original **panthis* would have been replaced by *panthās*. Additional evidence for the existence of a root **pontH* in at least one (Indo-)Iranian

²In 1969 and 1972 he argued for a reconstruction **pontēh₁s* and in 1995 and 2010 he argued for **ponteh₁s*.

language is the Scythian name Παντικαπης "fish road" (not quoted by Beekes, but discussed in Mayrhofer 2006:14-15). As such this name proves that not only the forms **ponteH* and **pntH* were used in Indo-Iranian, but also a form **pontH* was in use because otherwise the name would have been **Παντακαπης* (if based on **ponteH*) or **Παθικαπης* (if based on **pntH*). Mayrhofer (2006:14-15) used this form as additional evidence for the ablaut in the Indo-Iranian and Indo-European paradigm of this noun, and the laryngeal aspiration in Iranian, but did not discuss the issue of an *i* stem declension.

For Slavic Beekes assumed that the form **ponteh₁m* lead to the accusative form *pontb*, which created the *i* declension (which had already been argued by Pedersen 1926:54), and this reconstruction was adopted by Derksen (2008:417-418). For Armenian Beekes argued that the sequence **eh₁* of the accusative evolved into *i* and subsequently created an *i* declension.

For Latin Beekes, followed by Schrijver (1991:371) and De Vaan (2008:479-480), suggested **ponth₁s* as the basis for Latin. The paradigm as proposed by Pedersen (cf. infra) posed a serious problem with respect to the nominative singular. Pedersen reconstructed PIE **ponteh₁s* and this would have given **pontēs* in Latin. Latin has nouns with a long *e* and it is difficult to explain why this noun would have disappeared and been replaced by *pōns*. Therefore, they proposed the following Indo-European and Proto-Latin declension:

nom. sg.	PIE <i>*ponth₁(s)</i>	Proto-Latin <i>*pontas</i> or <i>*pōnts</i>
acc. sg.	PIE <i>*ponteh₁m</i>	Proto-Latin <i>*pontēm</i>
gen. sg.	PIE <i>*pnth₁es</i>	Proto-Latin <i>*pōntes</i>

This Proto-Latin paradigm underwent the effects of the strong initial stress and the shortening of long vowels before the final *m*. This would have given the accusative *pontem* (with short *e*) and the genitive *pontis*. These two forms would have facilitated the transition to the nouns with a *ti* suffix. If the laryngeal disappeared in the cluster **th₁s* (which Schrijver did not rule out), the attraction to the *ti* suffix nouns would even have been easier.

Beekes argued that the Greek evolution into a

thematic stem could not be explained but considered the transformation "trivial". In his 2010 dictionary he reconstructed **ponteh₁s* for PIE but did not elaborate on the specifics for Greek. Hamp (1953:137) had already noticed that Greek thematised this noun. Much earlier (before the laryngeal theory) Ciardi-Dupré (1901:215-222) had already doubted that Greek *πόντος* and Latin *pons* descended from the same paradigm as Sanskrit and Slavic because of the declension and the root. He started from a thematic noun **pontos* (which was taken over by Boisacq 1937:803 without mentioning Ciardi-Dupré, and which had already been suggested by Froehde 1883:125, who included the Slavic and Indic words and Greek *πάτος* but excluded *πόντος*) and assumed that syncope in Latin had led to the creation of the noun *pons*, with the genitive plural and the syncope of the nominative singular being the driving force to transfer the entire declension of this noun into the *i* stems.

Critical assessment of the two theories

With regards to Schmidt's reconstruction we believe that his explanation for the Greek nominative *πόντος* might be problematic for several reasons:³ firstly, the Greek nouns going back to PIE **ōi* stems are feminine, secondly they never lose their *i* completely as can be seen in older nominatives such as *λεχῶι* and *Συφῶι* (Meillet-Vendryès 1948:480; Smyth 1956:71, Buck 1955:92-93),⁴ thirdly they do not use a nominative marker *s* (Meillet-Vendryès 1948:480) and fourthly they do not shorten the stem vowel in the nominative. Fifthly, masculine nouns in *ωs* also exist outside the Attic declension, as can be seen in inherited forms such as *πάτρως* and *μητρως*, which renders the idea of a mere shortening of *ωs* less likely, although these forms can also be explained as analogical reformations from the accusative.⁵ Nevertheless, it has to be said that if these

³We discuss the value of the Sanskrit examples later in this article.

⁴We cannot discuss the theory of Schmalstieg (and Pirart, in a personal communication) that the nominative singular had a long vowel because it lost a resonant or a laryngeal at the end of the word. In that theory Sanskrit *devi* has a long *i* because the laryngeal has fallen out and *homo* has a long *o* because the *n* has been dropped.

⁵Hirt (1921:56) considered the Greek *πόντος* to be a reformation on an

feminine stems have a (rare) plural, the forms are from the second declension (Smyth 1956:71-72).

We believe that there are some remarks to make about Beekes' reconstruction. Firstly, there is the question as to why the nominative would have been in **Hs* and the accusative in **eHm*. This type is not very common (there are no examples of it in Greek nor Latin), and poses problems for both the Greek and the Indo-Iranian declension (cf. infra). Secondly, there is the question of the disappearance of the Latin nominative **ponta*. Latin had masculine nominatives in short *a* such as *agricola* (and according to Festus –quoted in Lindsay 1894:371-373 and De Saussure 1909- also forms such as *hosticapas* ad *paricidas*)⁶ and therefore the question is why this word added a nominative *s* and syncopated the final syllable.⁷ De Saussure (1909, quoted in Bally-Gautier 1922:585-594) showed that masculine nouns ending in **Cs* and **CHs* did in fact influence each other, and that the masculine *ā* nouns were only later on transferred into the feminine *a* stems. Evidence of this was the genitive plural in *um* (and in our opinion also the doublets *-capas* and *-ceps*).⁸ In addition, one could argue that nouns of the *agricola* type referred to persons and originated from **(e)h₂* whereas this noun referred to a thing and originated from **h₁*.⁹ Against these last two elements one could argue that the nouns of the *agricola* type were in origin abstract nouns (Lindsay 1894:371 and Weiss 2009:227) and that the three Indo-

older accusative **pontōm*.

⁶We owe the reference to Lindsay to Wolfgang De Melo (p.c.). The exact passage (Paulus Festus 278.10) can be found in Lindsay (1894:371): *siqui hominem liberum dolo sciens morti duit, paricidas esto*. Festus is also quoted in Weiss 2009:227.

⁷We cannot discuss the question whether these masculine nouns had added the *s* already in Indo-European times. Lindsay 1894:373-374 pointed out that these nouns had added the *s* in Oscan and Umbrian as well (without the shortening of the *a*). The issue is mentioned in Weiss 2009:227. It could be a Graeco-Italic isogloss, an independent innovation or an inherited feature of Indo-European. The first option seems to be excluded because not all Greek dialects shared this "innovation".

⁸Lindsay did not treat this issue and De Saussure wrote his article after Lindsay, but the similarities between *capas* and *ceps* were already noticed by Lindsay 1894:371 although he considered the form *capas* to be "strange".

⁹The issue of exact laryngeal will be dealt with later in this article.

European laryngeals merged into *a* in Proto-Italic if not followed or preceded by another vowel, and that **ponth₁* and **ponth₂* would have given **ponta* anyway.

The Iranian forms pose more problems, if we start from the reconstruction **pontHs* for the nominative and if we reconstruct *p[an]θim* for Old Persian. If we accept Beekes' reconstruction for Old Persian, it would mean that the Proto-Indo-Iranian cluster **nth* was not deaspirated in Proto-Iranian. This had long been assumed because of the Avestan form *pantā* (Bartholomae 1883:47 and 1889:9-10, Pedersen 1926:54-56, Reichelt 1927:36-37 and later also Elbourne 1998, 2000 and ftc.) which was supposed to continue PIE **pont^ho* : the laryngeal theory made it clear why the strong cases had no aspiration as those forms did not have a cluster **tH* out of which a secondary voiceless aspirate could arise. In addition, there was an Iranian counter-example, namely the form *zathā*, which was already pointed out by Kuryłowicz (1927:22, 1935:47).¹⁰ In that case

¹⁰The issue cannot be discussed in detail here, but the evidence of the Avestan paradigm is very important. Before the discovery of the laryngeal theory it was believed that the PIE form was **pont^hós*, which preserved its aspiration in Sanskrit but lost it in Avestan and Greek. In order to explain the loss of aspiration in Avestan, a "sound law" was devised that stated that Indo-European **t^h* became *t* in Avestan, if preceded by *s* or *n*. There were several examples of *s* but only one example of **t^h* being preceded by *n*. Moreover, there was an exception to this rule, namely the Avestan word *zathā*. In order to account for this exception, Bartholomae first assumed that the form *zathā* was a mistake in the tradition (*Arische Forschungen* II:158- non vidi) but later recanted this and tried to explain the Iranian *zathā* as the result of an analogical levelling based on the oblique cases (1889:9-10). The laryngeal theory has shed some new light in the discussion because the difference in consonantism could not be explained by assuming a root **pont^h* but Pedersen (1926:54-56), to whom the explanation of this paradigm goes back, believed that the laryngeal aspiration had already been spread analogically in Proto-Indo-Iranian times. The problem is that there are only two other examples that can be used in this discussion, and both can be explained as the result of analogical levelings (this was already pointed out by Hamp 1953:136). As Michael Weiss (p.c.) points out, the suspicion of Pedersen does not mean that the original distribution was not preserved into Iranian, but only makes it inconclusive, if the assumptions of Bartholomae and Pedersen were correct to start with. He also pointed at Avestan *zathā*. Elbourne (1998) tried to refute the evidentiary value of this form. Heiner Eichner assured us during the discussion of the Conference *Greek and Latin from an Indo-European Perspective* (GLIEP) 3 that the assumptions of Reichelt

the Avestan paradigm would have replaced **panthi* by *pan̄tā* with the consonantism of the accusative as well, and would have preserved the accusative in the paradigm as the sole form with a non-aspirate against the other forms with an aspirate. Moreover, the Old Persian form is an accusative and would not be correct according to Beekes's own reconstruction. The accusative in Proto-Indo-Iranian was **pantaHm* which cannot have given *p[an]θim* but would have evolved into **pantām*. One has to assume that the Old Persian nominative in *i* influenced the original Old Persian accusative and replaced the form by an accusative in *im*. Beekes argued that the interconsonantal laryngeals are dropped in Iranian and that a form **pontHm* could never yield *p[an]θim*, which means that in his reconstruction the nominative cannot have had an *s* because otherwise it would have lost the laryngeal as well. Also in his reconstruction Avestan and Sanskrit would have lost an original nominative under influence of the accusative whereas Old Persian would have lost the original accusative form under the influence of the nominative. We find it nevertheless difficult to see why such an ablauting paradigm would have kept the distinction between the weak cases and the accusative but not that between the nominative and accusative. Moreover, the evidence of the Old Persian form *p[an]θim* is in our opinion not conclusive. The exact vocalisation is debated: the Old Persian script did not write the vowels and the cluster *anta* was usually written as *a ta* (Meillet 1915:39), so it is difficult to account for the exact reading of this form. The form can also have been *p[a]θim* (which is the commonly used reconstruction, see Meillet 1915:54 and Kent 1953:30,52) and in that case we are dealing with a zero grade, which is the normal grade for *i* and *u* stems in the nominative and accusative (Meillet 1915:163). The Scythian name also casts some doubts on Beekes' reading of *p[an]θim*. As we argued above, the

and Bartholomae were wrong, and that the distribution of the Avestan paradigm had to be considered original. An additional problem is the Greek absence of aspiration in this noun (the problematic nature of this Greek absence was already noticed by Grassmann, Brugmann and Wackernagel) but the presence of aspiration in *μόθος*. We hope to come back to this at another occasion.

Scythian form has to be reconstructed as **pontH-* and because in that form the laryngeal came in direct contact with the voiceless plosive, one expects a voiceless aspirate of secondary laryngeal nature in Proto-Indo-Iranian, which would become a fricative in Proto-Iranian. Therefore we would expect Πανθικαπης, but the Scythian form has no fricative. As such, this form seems to indicate that Proto-Iranian did in fact deaspirate the Proto-Indo-Iranian cluster **nth*. On the other hand, one has to discuss how the Scythian names were transcribed into Greek. If the Scythian dental fricative were always rendered by Greek τ, this would seriously decrease the evidentiary weight of this instance. There is a king's name Ατεας which is sometimes linked with Avestan *Haθia* or Young Avestan *āθβuia*. As such, it indicates that Greek rendered the Scythian (and Iranian) fricative by *t* but the name can also be linked with Vedic *atya*, in which case it would be a "normal" correspondence (all suggestions are from Mayrhofer 2006:19). Zgusta (1955:221-223, 246) pointed out that an Iranian θ was rendered by either τ or θ in Greek.¹¹ As such, the Scythian form is less convincing. Mayrhofer (2006:14-15) argued that this name proved that the form *παντι-* was additional evidence for the fact that Iranian preserved the distinction between plain voiceless plosive and voiceless aspirate, contrary to Indic where the laryngeal aspiration was analogically spread to those forms where it was not etymological. This remains to be seen, however. If *παντι* preserved the original situation and the *t* referred to an original **t*, the reconstructed form would have to be **ponteH-*. In that case, the *i* is problematic, because PIE **e/oH* normally does not yield *i* in Iranian. We therefore believe that this form is a back-formation on the zero grade (as is Greek πάτος). In that case, the evidentiary value of *paθim* for an *i* stem would be lessened by the fact that the noun has the zero grade and not the full grade. As such this form cannot be a direct descendant of **ponteH*, as the accusative singular is a strong case. We therefore think that the Iranian branch on the one hand generalised the root

¹¹We owe this reference to Michael Weiss (p.c.).

**ponteH* as can be seen in the Avestan ablative *pantat* and, on the other hand, created a noun on the root **pntH* as well, as can be seen in the Avestan (feminine) accusative *paθam* (coming from **pntHeh₂* - this Avestan form was quoted in Jackson 1892:91-92). With regards to the Old Persian form we agree with Mayrhofer-Brandenstein (1964:140) who assumed that the Old Persian form was a secondary innovation and that the *i* had no direct connection with the inherited form **pntə*, but we nevertheless believe that this noun was built on the zero grade **pntH*.

With regards to the Armenian forms *hun* and *hni* there are some problems as well, but these are not confined to Beekes' reconstruction. Bugge (1893:71-72) argued that the nominative was built without *s* and that this was the driving force behind the declension being transferred into an *i* stem. The disappearance of the cluster **tH* in this noun is not easily explained. Meillet (1903:16)¹² and Bugge (1893:71-72) argued that PIE **t* and *t^h* disappeared at word end (as the laryngeal aspiration was not yet accepted in their days). Martirosyan (2010:426) referred to Armenian *sun* (from PIE **k^omt^h₂*) to indicate that the cluster **tH* might have been dropped at word end in Armenian. Hamp (1953:136) reconstructed **pontni* for Armenian and suggested (with doubts) a possible link between this (proto-)form and the (post R̥gVeda) Vedic forms in *panthan-*, if this form was to be considered old.¹³ Martirosyan (2010:426) pointed out that the noun *hun* allowed no certain judgement on the exact declension class, and that the Latin and Balto-Slavic forms were not conclusive either to prove a root **ponti*. The evolution **eh₁* > *i* in Proto-

¹²Meillet made this assumption already in MSL 7(1892), but we were unable to consult this article.

¹³Bartholomae (1888:76) noticed that the stem *pant(h)an-* was used in both Sanskrit and Avestan, but he added that this was not necessarily an indication for the original state. Brugmann (1876a:287,309) reconstructed **panthanm* as predecessor for Sanskrit *panthām* and assumed that **panthan-* was the original Proto-Indo-Iranian stem. As such, Brugmann assumed an evolution **VNm* into **ṽm* (with *N* being any nasal), which makes him (partial) founder of Stang's Law. For Sanskrit it is assumed that the *-an-* from the stem came from the synonym *adhvan*, (Renou 1952:206-207, Mayrhofer 1978:54) but this cannot be said for Avestan. The issue has to remain outside the scope of this article.

Armenian seems to be confirmed by the facts. If there was a sound law PIE $*tH\# > \emptyset$ in Proto-Armenian, this would be an additional argument in favor of Beekes' reconstruction $*pontH$ for the PIE nominative. As such, the Armenian evolution appears probable but we have some doubts about the fact that the accusative form was the leading factor to transfer this noun into the *i* stems.

The Tocharian forms also exclude an inherited *i* stem.¹⁴ The Tocharian B compound *amäkpänta* "wagon chief" is a reflex of PIE $*pntH-$ and Tocharian A *mapanti* "army chief" both point to an *o* stem (which of course does not necessarily prove that the PIE word was an *o* stem): the Tocharian B form is built on $*hamaks-pntHos$ (Adams 1984, 1999:19) whereas the A form seems to be $*ma-pont(H)-os$.

With regards to the Greek "trivial" change of an laryngeal stem into an *o* stem, we assume that Beekes (1989:7) meant that Greek changed the complex declension into a thematic declension. The thematisation of an irregular paradigm is easy to understand, although it is difficult to predict which declension would have been simplified and which one not. If we accept that the Greek nouns are indeed thematisations, they have no bearing in this discussion as they could be formed on $*pont(h_1)os$ and $*pnt(h_1)os$. With regards to Ciardi-Dupré's suggestion of a Graeco-Latin formation $*pont-o-s$, we would like to point out that his suggested syncope of the Latin form would be remarkable for two reasons: firstly, there are words in *entus* (such as *violentus*) but they did not undergo this syncope and secondly, it seems unusual to us that a noun would shift from a very common declension to a less common and more complicated one, because Latin usually has the opposite shift as can be seen in the thematic nouns *humus* and *aurōra* from nouns with ablaut in root and suffix. Syncope in the second declension is only attested with certainty in the nouns and adjectives in $*eros$ and $*ulos$ (such as *puer* and *famul*). Ciardi-Dupré's explanation for Greek seems to be generally accepted nowadays,¹⁵ as the

¹⁴We owe this reference to Lambert Isebaert and to one of the anonymous referees of the journal.

¹⁵Of course without the laryngeal as in those days the laryngeal theory was *in statu nascendi* and hardly accepted at all. Unfortunately Ciardi-Dupré is almost never credited with this reconstruction (he is quoted in

word is now normally considered to be a τóμος noun, i.e. originating from **pont(H)-o-s*. We agree with Ciardi-Dupré that the Greek nouns look different from the Baltic and Indo-Iranian forms, but the Slavic and Latin ones are similar and moreover we find it hard to explain why perfectly regular nominatives such as **pontus* and **fontus* would have been replaced.¹⁶

We now analyse the evidence for an *i* stem in the Latin noun *pons*.

Evidence for an *i* in Latin *pons*

Two elements are used to prove that *pons* was an *i* stem in Latin:

a) its genitive plural ends in *ium*: *pontium*. This was already pointed out by Schmidt (1885:370). The genitive plural is generally considered to be the best indication to check if a Latin noun or adjective is an original *i* stem (Lindsay 1895:51-54; Meillet-Vendryès 1948:460-462; Risch, quoted in Untermann 1992:139). The original nominative *pontis* became *pons* by the effects of the strong initial stress in proto-Italic.¹⁷

b) the second element is the compound *pontifex*. Several modern scholars (Meiser, De Vaan, Weiss) see this form as additional evidence for the Latin *i* stem in *pons*. Nowadays it is no longer accepted that the *i* was of PIE date, but is considered a Latin innovation, and, as a consequence, *pontifex* is usually reconstructed as **ponti-faks* (De Vaan 2008 s.u. *pontifex*). Neither Schmidt nor Bezenberger used this form as evidence for the Indo-European heritage of the *i* stem. Bezenberger (1908a) even explicitly rejected the connection between *pons* and *pontifex* and linked, with

Walde and Walde-Hoffmann, but not in later etymological dictionaries such as Boisacq, who mentioned his suggestion but not his name, Pokorny, Frisk, Chantraine or Beekes-Van Beek).

¹⁶There is a Latin word *pontus* but this is generally considered a loanword from Greek (as is argued by the etymological dictionaries of Walde and Ernout-Meillet). Michael Weiss (p.c.) adds that this word is never found in Plautus or Terence and only occurs in prose as of Livy, who was known to use a poetic language.

¹⁷These reconstructed forms have to be distinguished from the nominatives in Late Latin such as *noctis*, *pontis*, *mentis* etc. that can be found in the *Appendix Probi* and that are the basis of the Italian nominatives of the type *notte*, plural *notti*.

Walde (1905:598-599), the word with the Sabellic *puntes*. The meaning of that word was not certain but it was linked with Latin *quinque* in which case *pontifex* would then mean "belonging to the council of the five priests".¹⁸ The link between *pontifex* and Sanskrit *pathikṛt* was already made by Kuhn (1855:75) followed by Herbig (1916:216), noting that they agreed in meaning, but without pronouncing himself on the original declension.

We now discuss the weight of these arguments.

Assessment of the evidence for an *i* stem in the declension of *pons*

We believe that both arguments in favor are not conclusive. In our opinion the evidentiary weight of the genitive plural in *ium* is limited because the exact circumstances in which *um* or *ium* appeared, were already unclear in Antiquity.¹⁹ Even Lindsay (cf. supra- 1895:54), who stated that the genitive plural was the most reliable indication of an *i* stem, noticed that forms such as *panium* (where there is no *i* from an historical point of view) and *partum* (where there seems to be evidence for an historical *i* stem) coexisted. Moreover, there are many nouns that historically never had an *i* in their declensions that still display a genitive plural in *ium* such as the present participles in *nt* (although the genitive form could be due to influence of the feminine forms in **ih₂* of the active participle: in that case the feminine genitive **-ih₂om* would have spread to the masculine forms),²⁰ the nouns *nox*, *dens* and the nouns in *-tāt-*, for which the comparative evidence of Greek and Sanskrit has no trace of any *i*: Greek has *φέρων*, *φέρουτος* next to Latin *ferens*, *ferentis*, and *νεότης*,

¹⁸Other suggestions, including the ones that did in fact link *puntes* with *pons*, can be found in Untermann 2000:608. Untermann himself thinks that the Sabellic has to be linked with "five", but does not pronounce himself on the issue of *pontifex*.

¹⁹Untermann (1992:139) argued that the "classification" of the genitive plurals was still in progress in Classical Latin and that, consequently, there was still a lot of confusion. Weiss (2009:246, footnote 23) quotes a passage from the Latin grammarian Varro, *De Lingua Latina* 8,38 in which Varro mentioned the unpredictability of the Latin genitive plural. This means that already in I^a the exact rules of the genitive plural were no longer clear.

²⁰We owe this reference to one of the anonymous referees of the journal.

νεότητος next to Latin *novitas*, *novitatis*. In addition, the forms *civitatium* and *civitatium* occur besides each other (Kühner-Stegmann 1879:211), just as the forms *ferentum* and *ferentium*, *mensum* and *mensium* (Meiser 1999:140-141). Ernout-Meillet (1948:460-462) agreed with the assumption that the genitive plural is the best indication for an *i* stem, but pointed out that the mutual influence of consonant stems and *i* stems is widespread. We would like to add to this that in the accusative singular, the genitive singular, the ablative singular, the nominative plural, the accusative plural and the ablative-dative plural the consonant stems and the *i* stems influenced one another to a very large extent (Bammesberger 1984b:87-88; Untermann 1992:139, Klingenschmitt 1992:113-117; Meiser 1999:139-141 even uses a third category, *Mischflexion*). We therefore are inclined to question the conclusiveness of the genitive plural evidence. In addition to the genitive plural it is sometimes argued that also the accusative singular and ablative singular can prove that a noun is an *i* stem, such as the accusatives *partim* from *pars* (Lucretius 6,384), *piscim* from *piscis* (Praeneste III^a,²¹ the forms are quoted from Klingenschmitt 1992:113) *navim* from *navis*,²² *tussim* from *tussis*, *puppm* from *puppis* and the ablatives *securi* from *securis*, *imbri* from *imber*, *igni* from *ignis*, *civi* from *civis*, *mari* from *mare* (forms can be found in Meiser 1999:140). In the case of *pons* the argument is based on the form *ponti*, which occurs besides *ponte* (Kühner-Stegmann 1879:181-182) but we believe that the evidence is also in that case too confused to be conclusive because the forms *navem*, *cive* and *mare* are also used, and the accusative *civem* is used almost exclusively, as is the form *pontem*.

Schmidt (1885:371-372; followed by Meillet-Vendryès 1948:480-481) also used the Sanskrit case forms in *i* such as *pathibhih* to prove the Indo-European word had *i* in its oblique cases, and that this was an additional element that proved that *pons* was an *i* stem in Latin. It is not at all

²¹A Roman figure refers to a century and an Arabic figure to a date. A small *a* indicates that the year/century is BC while a small *p* indicates that it is AD.

²²The question whether *navis* is a genuine *i* stem in Latin or a back formation on the genitive singular like *canis* cannot be addressed here.

certain that the Sanskrit form *pañbhīh* continues an *i* stem. Kuiper (1955:91, followed by Mayrhofer 1957:210-211, 1983:120 and 2005:120) argued that the Avestan form *padābiš* effectively ruled out an *i* stem, because Avestan *ə* could not continue an Indo-European **i*. The Avestan form *padābiš* goes back to PIE **pñth₁b^his*. In Proto-Indo-Iranian the sonantic **n* became *a* and this form would have become **pat(h)Hbhis*. At that stage the two branches underwent a different evolution: the interconsonantic laryngeal “vocalised” in Proto-Sanskrit and became *i* which creates the form *pañbhīh*, while in Proto-Iranian interconsonantic laryngeals were lost (as can be seen in *duḡda* from **d^hugh₂tēr* < **d^hugh₂ters*)²³ and voiced aspirates lost their aspiration. This led to the creation of the Proto-Iranian form **patbis* in which the voiced *b* voices the preceding *t* and creates **padbiš*. In that form an *ə* is inserted in the writing, but the pronunciation is still disyllabic and the *ə* is merely graphic (De Vaan 2003:384,448).²⁴

To support the Indo-European heritage of the *i* the evidence of the Sanskrit compound *pañhikṛt* “road making” was adduced (Bezzenberger 1908b:384). This form is not conclusive, however, as the Sanskrit *i* does not necessarily represent an Indo-European **i* but can also be the reflex of a laryngeal. The Sanskrit form can then be reconstructed as **pñtH- kṛt* in which the laryngeal vocalised and became *i* and in which the aspiration was extended analogically from those forms where the laryngeal came into contact with the plain plosive and was followed by a vowel (just like the aspiration was extended from the genitive singular into the nominative *pañhāh* and the instrumental *pañbhīh*).

The creation of the compound *pontifex*

Pontifex has a religious meaning “high priest”. As such the link with the noun *pons* might seem less obvious, and

²³We cannot discuss the idea suggested by Gernot Schmidt (*non vidi*), and Hackstein 2002:5 that this was already of PIE date. Kuiper 1942 assumed that the laryngeal in this paradigm was vocalic in some cases and consonantic in others, and that every language generalised one or the other. Martin Peters fine-tuned the observations of Gernot Schmidt and argued that in PIE **CHCC* became **CCC* if the accent followed the cluster (Schmidt and Peters were quoted in Mayrhofer 1981b:437).

²⁴We would like to thank Eric Pirart for pointing this out.

was not accepted by every scholar (cf. *supra*). But since the other suggestions for *pontifex* are not convincing either, Ernout (1928:217-218) suggested sticking with the meaning that was already used by the Romans themselves, namely “building bridges”. From a semantic point of view this meaning is perfectly defensible. The *pontifex* would originally have been the one who made the roads accessible to walk on and who guided the people on these roads. Since the Romans often had to go through inaccessible and swampy areas, the way to build roads would have been to build bridges. The one who went first, could only be a person of a certain religious stature to appease the gods that could have been residing in those swamps. From the association between the guiding of the people and the religious power of that person, the word obtained the religious meaning and lost the original meaning (Herbig 1916:219, with reference to Mommsen 1856:158; Ernout 1928:217-218; Ernout-Meillet 1948:922-923; Müller-Renkema-Leeman 1969:704).

The origin of the compound *pontifex* was debated from a semantic point of view, but also from a morphological point of view. The noun is generally interpreted to be a compound of *pons*. Two suggestions have been made: the first one uses this compound as proof that *pons* was an *i* stem (either inherited from Indo-European or created in Proto-Latin), and the second theory considers the *i* to be a compound marker. We believe that a comparison with the Sanskrit compound *pathikṛt* can shed some new light on the issue.

The normal reconstruction of this word is *ponti-fex*, in which *ponti* represented the stem and *fex* was the verbal component of the compound.²⁵ As such, the word proved the *i* stem of the noun *pons*. This assumption was made both by scholars who accepted the Indo-European nature of the *i* (Meillet-Vendryès) and by scholars who thought that the *i* stem was a Latin innovation (Meiser, De Vaan 2008: *s.u.* *pons*, Weiss 2009). There is not much discussion about the reconstruction of *fex* which goes back to *d^hh₁k-s*, but with regard to the *i* in this compound, some

²⁵For a recent analysis of Latin compounds with verbal elements one can refer to Fruyt 2002, especially 269-272.

observations can be made. While it is a long established fact that intervocalic *i* is not necessarily a reflex of an inherited *i* and that any unstressed vowel in an open syllable could have been changed into *i* in Proto-Latin, this has nevertheless not been observed in the compound *pontifex* and the *i* has been accepted by several scholars as an inherited vowel. According to others however, the *i* was a compound marker and had no original link with the stem (Collart 1967:95, Bammesberger 1984b:115). Collard quotes examples such as *somnifer* and Bammesberger gives as an additional example the compound *particeps*, in which he interprets *parti-* as a special “compound case”. One can wonder, however, if *parti* was not the stem of *pars* instead of a compound case. From a synchronic point of view this explanation is correct as there are many words that seem to have this “marker” such as *somnifer*, *aquilifer*, *belligerus*. We believe that the fact that most compounds have an *i* before the second element of the compound is an indication of an internal evolution within Latin (this had already been pointed out by Brugmann 1889:55-56).²⁶

When we look at the reconstruction for Sanskrit and the Latin reconstruction, we have two apparent differences. The first one is the ablaut grade of the stem, which is different in Sanskrit and Latin, and the second one is the apparent different origin of the *i* in Sanskrit and the *i* in Latin. In our opinion these differences are not insurmountable and can be explained. The vocalism in Sanskrit is the zero grade which can be explained by a generalisation of the zero grade. In Latin the vocalism of the form *pontifex* has been built on the nominative *pons*. The second difference is that Sanskrit has preserved traces of the laryngeal whereas Latin has not. Interconsonantic

²⁶Compounds with a short *o* exist but they are in all likelihood created under Greek influence, as has been argued by Brugmann 1889:55-56, Lindsay 1894:364, Leumann-Hoffmann-Szantyr (1977:390) and Fruyt (2002:266), with reference to Leumann. Lindsay 1894:364 argued that *o* before a labial sound could be “genuine relics of the Old spelling” if the word occurs in Old Latin (such as *albo-galerus*, quoted in Paulus Festus 8.6 and Plautus, *Curculio* 445 *Unomammia*, after the name of an Amazon on a Praenestine cippus *Oinumama*) but that they were Greek imitations if the word was of later date. Wolfgang De Melo (p.c.) points out that the Plautine compounds such as *merobiba* (*Curculio*) with an *o* are almost certainly Greek imitations.

laryngeals appear in Latin as *a* as can be seen in *pater* from **ph₂tēr* < **ph₂ters* (Meiser 1999:107, Schrijver 1991:85,97, Fortson 2004:248, Bakkum 2008:58-59, Weiss 2009:96). One would therefore expect **pontafex* if Latin were to continue a laryngeal. In our opinion, the vocalism of *pontifex* does not rule out a laryngeal. If we start from the reconstructed form (with original or analogically restored full grade) **ponth₁-d^hh₁-k-s* this would have given **pontafax* in Pre-Proto-Italic before the effect of the strong Proto-Italic initial stress. The effect of the initial accent affected all syllables that were not under the stress, but there was a different treatment for short and open syllables on the one hand, and for closed and long syllables and diphthongs on the other hand. Every short vowel in an open syllable that was not under the accent, became *i* and all short vowels in a closed syllable became *e* (Dietrich 1852:546-549; Niedermann 1931:2-37, Meiser 1999:67-70, Weiss 2009:116-120). If we apply this initial stress rule to *pontifex* we can explain the vocalism perfectly: in the Proto-Italic form **pontafex* the first **a* which is short and stands in an open syllable, becomes *i* which is the expected outcome, and the second **a* which is short but stands in a closed syllable, becomes *e* which is also the expected outcome. In the case forms, the second **a* is no longer standing in a closed syllable but in an open, and therefore becomes *i* which is what happens: the genitive **pontafakes* becomes *pontificis*. This evolution is not without parallels in Latin. Many compounds have an *i* that can be explained by the effect of the strong initial stress. Some examples are *novitas* from **neuotāts*, *somnifer* from **suopnob^heros*. The fact that this *i* occurred so often in compounds, might have created the impression in Latin (synchronically) that *i* was a compound maker. The only anomaly left to explain in *pontifex* is the *f* of *fex*: the expected Latin outcome of **d^h* would have been *d* because **d^h* was standing in Inlaut. It is likely that the *f* was restored analogically on the verb *facere* just as the verb ***condicere* was restored into *confacere* by effect of the simplex *facere* (and just like *fer* in *somnifer* was restored on the consonantism of the verb *ferre*).

Besides the form *pontifex* one also finds the form *pontufex* that occurs at the end of II^a but this is not an indication against either reconstruction. Kent (1932:100)

and later Weiss (2009:117-118) point out that *i* was colored into *u* before labials and that this had nothing to do with the original vocalism in pre-Proto-Italic times. Meiser (1999:68) argues that the reduced vowel *ə*, which he considered to be the result of the strong initial stress, became **ü* before labials and that the writing was with either *i* or *u* and that only in Classical times the orthography was determined. He quotes *pontifex* as an example of the coloring of *i* but this is not conclusive as the other vowels became *i* or *u* before labials as well (such *taberna* and *contubernalis*, quoted in Meiser 1999:78).

As such, the compound *pontifex* does not contradict Beekes' suggestion of a nominative **pontH* and agrees in composition with the Scythian name ΠΑΥΤΙΚΑΠΗΣ, in their use of the root **pontH*.

The declension and origin of Latin *pons*: Pedersen's reconstruction

In line of what was argued above, we still need to explain the creation of the nominative *pons* and its declension in Latin. In 1893 Pedersen reconstructed the Proto-Indo-Iranian paradigm and in 1926 the PIE forms, which in modern notation would look like this:²⁷

nom. sg. <i>*ponteh₁s</i>	gen. sg. <i>*pnth₁es</i>	nom. pl. <i>*ponteh₁es</i>
acc. sg. <i>*ponteh₁m</i>	gen. pl. <i>*pnth₁oHom</i>	dat. pl. <i>*pnth₁b^hos</i>

If we follow through with his reconstruction, the Proto-Latin declension would have given the following forms:

nom. sg. <i>*pontēs</i>	gen. sg. <i>*pentēs</i>	nom. pl. <i>*pontēs</i>	gen. pl. <i>*pentōm</i>
acc. sg. <i>*pontēm</i>	dat. pl. <i>*pentābos</i>		

Such a paradigm would have been too irregular and anomalous to survive, as it contained elements of several different declensions. The first evolution in our opinion would have been the levelling of the same stem throughout

²⁷Pedersen did not specify the exact color of the laryngeal and only used the sign *X*. We assume that he meant **h₁* because he suggested that the cluster *eXm* became **ēm*. He did not reconstruct the genitive with **oHom* either.

the entire declension.²⁸ As such, the genitive plural and the dative plural would have become **pontōm* and **pontabos*, and the genitive singular would become **pontas*. Then the final *m* of the genitive plural ending would have shortened the long *o* of the genitive plural (and the long *e* of the accusative singular). The next evolution was the effect of the strong initial stress which caused the short *e* of **pontes* and the short *a* of **pontabos* to become *i* as in *somnifer* from **suopnob^heros*. The next step was the closing of the final syllables, which would have created the forms *pontibus* and *pontum*. At this stage the paradigm already had the forms *pontibus*, *pontis* and *pontum*. The genitive *pontum* was interpreted as a genitive of a third declension noun with a consonant stem. From the case forms *pontis* and *pontibus* the impression was made that there was a noun from the third declension. By analogy of forms like *frontis* and *frontibus* a new nominative *pons* was created: *frontis* : *pontis* = *frons* - X, X = *pons*. The genitive plural was still *pontum* at this stage because there was no *i* stem involved. Under the influence of forms such as *frontium* and *fontium*, the genitive plural of *pons* became *pontium* just like the genitive plural of the participles became *ferentium* although there was never an *i* stem in the present participles. The nominative singular remains a problem however. While we agree with Beekes that the *i* stem forms are of secondary nature, we still need to account for the disappearance of a perfectly normal nominative form **pontēs*. Beekes' reconstruction assumed that the laryngeal disappeared without vocalising in the nominative singular, which seems less likely (but not impossible, cf. *supra*) to us in light of forms such as *agricola*. We believe, with Pedersen, that in an initial stage the inherited form **pontes* and the analogically created form *pons* coexisted in a similar fashion as *plebes* and *plebs*

²⁸Wolfgang De Melo (p.c.) assumes that this analogical levelling had probably already happened before Proto-Latin. Given the fact that neither Oscan nor Umbrian have any traces of this ablaut, it is very likely that the levelling is of Proto-Italic date. On the other hand, the nouns in *ion* have levelling in the Latin paradigm but not in the Sabellic one, so one could argue that the levelling in this specific occurred independently. The issue of paradigmatic levelling and secondary ablaut deserves closer scrutiny. In any case the levelling must have been the first evolution in this specific paradigm.

coexisted. We admit that the disappearance is strange especially in the light of the unchanged form *clades*, and the coexistence of doublets as *plebs* and *plebes* (in which the third declension forms do not occur in Old Latin, see Weiss 2009:255) but we suspect that the form **pontes* would have been ousted under the influence of the forms in *ons* such as *mons*, *frons* and *fons* on the one hand and the participle forms in *ns* on the other hand. We believe that the masculine gender of **pontes* might also have played a role in the disappearance, because the nouns in *es* were almost exclusively feminine.

The PIE reconstruction of this noun

Finally we have to explain why in this article the reconstruction **ponteh₁s* as first suggested by Pedersen in 1893 and 1926 was used. In 1967 Schindler proposed to use the reconstruction **pentoh₂s* because of other declensions which he described as "amphikinetic". He suggested that the nouns in this declension type were categorised as R(e) S(o) D(z) in the strong cases and R(z) S(z) D(e) on the weak cases (1967:201-205).²⁹ His reconstruction has now been accepted by most Indo-European handbooks (Meier-Brügger, Fortson, Clackson, Weiss) and scholars. While this is certainly true for some nouns (quoted by Schindler), such as Hittite *tekan*, Greek *χθών* and Sanskrit *kṣam*, and Greek *ἔως*, Latin *aurōra* and Sanskrit *uśāh*, the reconstruction with an *o* seems nevertheless more likely in light of the cognates in Slavic, Armenian, Greek and Latin. This was already pointed out by Pedersen, who was followed by Hamp (1953:136) and Beekes (1969:179); this reconstruction has been reiterated in the etymological dictionaries of De Vaan, Beekes-Van Beek and Lubotsky. Hamp (1953:136) and Mayrhofer (in his 1986 *Indogermanische Grammatik* against his earlier and later reconstructions) reconstructed **pEntEH* to indicate that stem vowel and thematic vowel are debated and not certain. We believe that the Latin paradigm indicates that the

²⁹R stands for root, S stands for suffix and D stands for desinence, ending; (e) stands for "e grade", (o) stands for "o grade" and (z) stands for zero grade. In describing these ablaut patterns we followed the system used in Clackson 2007:79-81.

original vowel was *o* because if the reconstruction had been **pentoh₂* for the strong cases and **pnth₂* for the weak cases, the entire Latin declension would have had an *e* and it is difficult to see how that would have been leveled out into *o*. We believe that the Tocharian evidence speaks for *o* as well.³⁰ The Tocharian B compound *amäkpänta* "wagon chief" is a reflex of PIE **pntH-* and Tocharian A *mapanti* "army chief" point at a form *pont(H)-o* (Adams 1984, 1999:19).

The second problem is the reason for choosing **h₁* instead of the generally accepted **h₂*. The first reconstructions were made with **h₁*, but gradually the reconstruction of this noun was changed because most scholars assumed that only **h₂* could aspirate. The first one to state this was Kuryłowicz (1927:22) although he was not entirely certain in this case but assumed that since all certain aspirating cases involved **h₂*, this noun had to have **h₂* as well. Initially, Pedersen's reconstruction was accepted by most scholars (as can be seen in Hamp 1953 and the initial versions of Mayrhofer's etymological dictionary). After Schindler's article in 1967, Mayrhofer (1981b:432-against his *KEWAi* and 1978:54) argued that only the second laryngeal could aspirate and this is now accepted by most scholars. The reasons why we accept Pedersen's reconstruction are twofold: first, we believe with Beekes (1969:179, 1970:42, 1988a) and Lubotsky (f.c. a s.v. *panthāh*) that **h₁* can aspirate as well, and secondly we believe that the reconstruction **pentoh_{2s}* poses problems for all languages, except Indo-Iranian. The instances used to prove the aspirating effects of **h₁* are the 2nd person plural active Sanskrit *tha* Greek *τε*, and Latin *tis* coming from PIE **th₁e*, and Sanskrit *asthi* Greek *ὄστέ(ι)οῦ* and Latin *os* coming from **Hosth₁(eio)*, although other explanations for these two instances are also possible, such as a root **Host* with a suffix *eio* in Greek for *ὄστέ(ι)οῦ* and Sanskrit aspiration under the influence of the preceding *s* (a theory already extensively argued for by Hiersche 1964),³¹ and a secondary ending **th₂e* which disappeared in Greek but was preserved

³⁰We owe this reference to Lambert Isebaert and to one of the anonymous referees of the journal.

³¹One can refer to the discussion in Joseph 1984.

in Sanskrit and used as primary ending,³² or a secondary aspiration as sign for the second person (Gray 1930:238, Kuryłowicz 1956:381) for the ending *tha*. We would also like to point at the fact that $*h_1$ and $*h_2$ behaved similarly in (Proto-)Sanskrit: both laryngeals changed PIE $*d^h$ into *h* as can be seen in the participle *hitah* from $*d^h h_1tos$ and the 1st person plural middle ending *mahi* coming from $*med^h h_2$.

Conclusion

We started by discussing the two theories that suggested an *i* stem for this paradigm, one arguing for an original diphthong *ōi/oi*, that was simplified in almost all branches, the other one arguing for a stem $*ponth_1$ that evolved independently into an *i* stem in several languages and that was later analogically (and also independently) removed in Sanskrit and Avestan. We analysed the evidence for both theories and concluded that the Latin and Greek evidence for an inherited *i* stem was not convincing because it contradicted the Greek sound laws and because the Latin evolutions could also be explained otherwise. We then proceeded to Beekes' analysis and found that his evolutions for Latin, Armenian (and Slavic) were at least plausible and allowed the reconstruction of a form $*pontH$, even though the Latin nominative *pons* remains a problem in our eyes. We also pointed at the Latin compound *pontifex* and the Scythian name *παντικαπης* as additional elements confirming the existence of $*pontH$. We nevertheless have our doubts on the Indo-Iranian (and Indo-European) reconstructions because of the following reasons. First, we wonder why this noun would have had a nominative in $*Hs$ and an accusative in $*eHm$. Secondly, we doubt the independent innovation of the nominative singular in both Sanskrit and Avestan, but rather think that those languages preserved the original declension. Thirdly, we doubt the evidence of the Old Persian form *pθim*, as this accusative form is in itself already an analogical reformation, regardless of which reading one takes. The Greek forms are most easily explained by assuming later thematisations, either from a stem with or without laryngeal, but they have no bearing in this discussion because their origin might be

³²We owe these two suggestions to Michael Weiss (p.c.).

secondary. In light of all the above, we believe that the original paradigm as proposed by Pedersen in 1926, nominative **ponte_his* and genitive **pnt_hies*, has some problems but is still the best explanation for the facts in most languages.

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Indo-European Divinities that Protected Livestock and the Persistence of Cross-Linguistic Semantic Paradigms: *Dea Oipangia*

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Two instances of a Lusitanian divinity OIPANGIAE are analyzed as a compound $*H_3eui-p(e)H_2(-o)-$ “(the one) protecting sheep”.

1. Attestation¹

There are two examples of this goddess name in the dative case in two undoubtedly votive inscriptions found in Idanha-a-Nova, Castelo Branco, in central-eastern Portugal, in the ancient Lusitania Emeritensis:

A. OIPAIN/GIAE / MARCIVS / RVFVS / [...]
B. OIPAENGI(AE) / APANA / PISSIRI / V S

Let us note that Garcia (1991: 308, nr. 60) opted for a reading DIPAINCIAE for our first testimony and had some doubts about the letter <C>, that could be also read <G>. Yet, J. d’Encarnação (1993) has established the right reading beyond doubt in view of the later finding of the second inscription (Amaro 1993).² Now, a relationship to the Lusitanian place name handed down as *Diponem* (Livy *Ab Urbe cond.* 1.113) and *Dipone* (*It. Ant.* 418.3) can be safely ruled out.

Some years ago (Prósper 2002: 339-340), I suggested

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²In fact, it is quite possible that one of the inscription reads <NG> and the other <NC>. Voicing of stops following a nasal is a universal tendency, but it may still have been *in fieri* and then <C> is sometimes used as a cover symbol for /k/ and /g/.

OIPAINGIAE might be a derivative from a place name belonging to the non-IE *-ip(p)o* compounds, the best known of which is, of course, *Olisippo* (Lisbon). If not impossible, this hypothesis remains unsatisfactory, since the place lies to the North of the Tejo river and most of these compounds are attested far away from Castelo Branco and are concentrated in southernmost Andalusia (Villar 2000: 106). Note that one of the dedicants comes from a romanized family, whereas *Apana*, daughter of *Pissirus*, bears, like her father, an indigenous and possibly non-Celtic name.

2. Etymology and word formation

It is attractive to compare OIPAINGIAE with several nouns, adjectives and names all over the Indo-European continuum. Perhaps the first example that comes to mind is the river *Boyne* in Leinster (eastern Ireland). This river is already mentioned by Ptolemy 2.2.8 as the *Βοιοννδα*. Most handbooks and monographs still repeat the idea (which actually goes back to the first medieval mythological account of its origin in a document from the XII century, the Rennes *Dindshenchas*) that **bō-uidā* means “white cow” or “characterized by white cows” (cf. for instance Uhlich 1993: 181-182, who thinks the original meaning must have been “white as a cow, cow-white”, Koch 2006/I: 217, etc.).³

As a matter of fact, a relationship with OI. *govindū-* “obtaining cattle”, an epithet of Soma, and *govinda-*, long ago brilliantly established by Campanile 1991, is not only more convincing from the point of view of myth, but also deeply embedded in IE word formation and word order, and consequently preferable. *Govinda-* and *gopāla-* are epithets of Krishna and both are reminiscent of his activities as protector of cattle, and this equation of peripheral forms is as usual diagnostic of considerable antiquity. This analysis has been recently confirmed by Delamarre (2004), who claims that the name of the deity

³This is syntactically more convincing, but one wonders if cows have ever been a reference for whiteness, as opposed to milk, which may be the meaning of the metaphor. Unless it is so, some of the symbolic or mythological associations are lost on us, since the only race of white cows did not leave Eastern France until the 18th C.

BORVOBOENDOAE (Utrecht, cf. Vollgraff 1931) comes from **boruo-bōuindu-ā*, and additionally translates the Celtic personal name CONTOBOVIOVINDVLLVS found in Pompeii (*CIL* IV, 1838) as ‘qui-a-obtenu-cent-vaches’ (which by the way is nicely supported by formal cognates like *OI. śatagu-*, *Gk. ἐκατόμβη*). Thus, it is perfectly defensible to see **bō-uindā* as an original goddess name related to the obtainment or protection of cattle. This does not mean that we do not find cases of the metaphoric identification of cows and flowing cow’s milk with streams, as in Indian mythology; and some European river names literally mean “calf”, as the Italian (Marsian) *Iuvenus amnis* in Pliny (2.224, codd. *Invectus*), today the *Giovenco* (although this particular case is probably associated with the fury of waters, which is why the iconography of river male deities usually includes horns as an essential trait).⁴

Additionally, Ptolemy 3.1.3 reports the existence of a Ligurian river Βοάκτου (nowadays *Vara*) that looks equally like a compound of **g^uou-* “cow” and a past participle or a nomen agentis **aġ-tō-*, as remarked by Isaac (2004), who translates it as “place where the cows are driven”, which is a thinkable name for a river but in my view requires an unlikely syntactic structure. Unfortunately, Βοάκτου is only a *varia lectio* and the editions favor Βοακίου on the strength of the nearby place name *Boaceas*, mentioned in *It.Ant.* 293.⁵

<OI>- comes from **H₃ewi-*, the pan-IE designation of “sheep”, present in most languages including Anatolian (in Luwian *hawī-* and Lycian *xawa-*).⁶ There is little doubt as to the ascription of OIPAINGIAE to the Lusitanian language:

⁴See Sextus Pompeius 363, 2-4: “Taurorum specie simulacra fluminum, id est cum cornibus, formantur, quod sunt atrocia ut tauri”.

⁵*Pace* Falileyev (2007), a lemma *Boakias* is unwarranted for the watercourse; the river name may perfectly have been a masculine **Boakios*, and it possibly goes back to an adjective **g^uou-ak^h-io-* built on a *tatpuruṣa* compound containing IE **ak^hā* “water”.

⁶The alternative and usual reconstruction **H₂oui-* has the disadvantage of not accounting for the preservation of the initial laryngeal in Armenian and Anatolian in contact with apophonic /o/, but is preferable for those who believe initial *H₃* was lost in Anatolian. See a state of the art in Kortlandt (2001). On the breeding of ovine cattle cf. Mallory – Adams (1997) and Graf (2006).

**oui-* > *oi-* is a phonetic change attested in the Lusitanian word OILAM (acc. sg., Cabeço das Fráguas), OILA (acc. pl., Portalegre) “ewe” from **H₃euī-leH₂*, and the fact that we systematically find <OI>, and never <OE>, is indicative of this segment not representing an original diphthong. Its diminutive formation probably means the noun specifically refers to females of the species, as in several other languages. Thus, Latin *ouicula* has replaced the original diminutive formation by the complex suffix *-kelo-*, and other languages use velar suffixes, like Skt. *avikā* and OCS. *ovīsa*. But the exact cognate of the Lusitanian word is still preserved in Skt. *avilā*, as claimed by Witczak (2003), so that it is a notable archaism.⁷

It is obvious that the fact that this compound contains the original *-i*-stem **oui-* bears testimony to its antiquity. But it may well be the case that this word was still synchronically felt as comprising ovine cattle as a whole; in the languages of stock-breeding societies this vocabulary is highly diversified, and in Lusitanian OILA, OILAM denotes an adult animal and a female, as opposed to “ram”, for which there is no attestation. In the newly found inscription of Portalegre, ewes seem even to be distinguished according to color as in present-day livestock, so that OILAM ERBAM is probably a “brown ewe” (Prósper – Villar 2009); OILAM VSSEAM in Cabeço das Fráguas is probably the phrase for the one year old ewe (**ut-s-īo-*). Finally, in my view, ANGOM in Lamas de Moledo (Viseu), as well as the hitherto uninterpreted ANCNVN in Freixo de Numão (Guarda, *CIL* II, 430, a strongly Latinate inscription which it is very difficult to segment in units, but which in my view similarly depicts an animal sacrifice), are the continuants of IE **H₂eg^u-no-* “lamb”, also attested in Lat. *agnus*, OIr. *úan* (Prósper 2010).

⁷Delamarre (2002) includes among other alleged Gaulish results of **oui-* > *oi-* a personal name OEPIA that would mean “looking like a ewe”. I have been unable to find out where it is attested and it’s not mentioned by Holder, so I suspected it might be a mistake passed on uncritically since Whatmough’s times. Dr. Delamarre has kindly informed me (*p. c.*) it is a potter’s name. On the other hand, there are a number of instances of OEPLVS, OEPLA to be found only in Dalmatia, which is hardly a Celtic name and, if it’s Illyrian at all, cannot be related to this root without posing a number of moot questions.

The second member of the compound has preserved IE /p/, which unequivocally means that the word is not Celtic. As I have explained elsewhere at length, Celtic vocabulary from westernmost Hispania has regularly lost /p/ in all the relevant contexts. In other words, whereas indigenous Lusitanian inscriptions still show /p/ unchanged in words like PORCOM “pig”, western Hispano-Celtic shows, as expected, no /p/, witness the following names: OLCA (castellum of the Callaeci, from $*(\phi)olkā$ “field”), ERITAECO (castellum of the Callaeci, cf. OI. *paritá-* “surrounded” and Galatian Ἐριτοβρογίς, wrongly transmitted by the manuscripts as Ἐριγοβρογίς), *Vagabrobendam* (Asturian place name, from $*u(\phi)ogabrobendā$), ROTAMVS (personal name, cf. OI. *prathamā-*), and so on (Prósper 2007).

The derivational stem of the word OIPAINGIAE then comes from $*H_3eui-p(e)H_2$ and could be either a synthetic compound of Direct Object + Verbal Root: “protecting sheep” if the second member is the bare root $*p(e)H_2$, or a tātpuruṣa “protector of sheep” if it is a primary nomen agentis $*pH_2-ó$. It is consequently the exact counterpart of Arm. *hoviw* “shepherd” and, *mutatis mutandis*, OI. *go-pā-*, *paśu-pā-* “oxherd” (Pokorny 1959: 787). This type is very ancient, and a root *pahhs-* conveying the same meaning is attested in Hittite bearing the same primary enlargement as the Latin derivatives *pāscō*, *pāstor*, etc.

One could even suspect that the attested forms, including those with a second member $*uind-$ and the Greek counterparts *βουβοτός* (cf. Myc. *qo-u-qo-ta*), etc., all go back to a single prototype, and that there was a PIE semantic paradigm of compounds whose first term was a noun designating a domestic animal and the second was a verbal root or nomen agentis related to protection, obtaining or herding. And it is attractive to hypothesize that the oldest second member for a meaning “cattle protection” was $*p(e)H_2$, preserved only in the easternmost and westernmost areas, though this cannot be proved and it is safer to see most of them as parallel developments. The insular Celtic compound for “cowherd” is $*bou-kolī-$ in OIr. *búachaill*, W. *bugeil*, etc., from $*g^uou-k^uolV-$, closely related to (and showing the same dissimilation as) Gk. *βουκόλος*, Myc.

qo-u-ko-ro (Schrijver 1995: 265-266).

It is well established, as implied above, that the Indo-European peoples of all times have worshipped divinities whose main function was the protection of livestock, and who bear names directly pointing to their function. In Latin there is *Būbōna*, a minor deity whose name might be old in spite of appearances (it is mentioned by St. Augustine only). It has never been clear, and probably never will be, where the stem *būb-* in this and other Latin words comes from, but it has probably spread from a single nucleus. One might even suggest it is the result of an assimilatory process, whereby an ancient, no longer segmentable nor clearly understood compound **g^uou-p(V)-* gave *būp-* and then this unparalleled sequence yielded *būb-*. This would provide a suitable explanation of *būbulus* “related to cattle” and *būbulcus* “cowherd” if from **g^uou-pH₂-lo-* or **g^uu-pH₂-lo-*, which would destroy the often admitted but far-fetched equation *-bulcus* = Gk. *φύλαξ* (but would still leave *-cus* unexplained).⁸ A possible related compound is Lat. *aububulcus* in a late glossary, but it is glossed as ‘pastor bovim’, so it is usually believed to be a mistake for *bubulcus*. A discordant voice is Vine’s (2006), who pleads in favor of the validity of the reading and the existence of a primitive form †*aubulcus*. In fact, the name OBVLICVS (*CIL* I, 1428, Aemilia) is probably based on a vulgar †*ōbulcus* (Bader 1962: 216), and not, as often claimed, on the place name *Obulco* in the Hispania Baetica, which is a Latin adaptation of an indigenous *Ip-olka*.

On the other hand, little attention has been paid to

⁸It is often overlooked that, since adjectives in *-ulus*, excepting the diminutive formations, are all deverbative, e.g. *pendulus* ‘hanging’, *credulus* ‘believer, gullible’, *būb-ulus* should in principle contain a verbal root. Admitting that at least the nuclear forms are suffixed by *-lo-* and based directly on the root, not on a thematic derivative thereof, one might even think of a process by which /p/ was aspirated by the following laryngeal before it was lost in the second term of a compound (**-pH₂-lo-* > **-p^hlo-* with subsequent anaptyxis), giving *mutatis mutandis* the same final result as predicted by Olsen’s (1994) often challenged explanation of the variants of the instrumental suffix *-tlo-/d^hlo-* and the *-idus* adjectives as the product of metathesis, which runs **VH-to-* > **-V-t^ho-* > **-i-po-* > *-idus*. (The alternative could be that they are refashioned from the counterpart of OI. *gawala-* “buffalo” and the western Hispanic name BOVALVS, but the required process is both complex and unclear.)

the place name in Latium underlying *Bubentani* in Dion. Hal., *Bubetani* in Pliny 3.69, perhaps containing *būb-* or alternatively the assimilatory, perhaps analogical, result of IE **g^uou-ment-* or **g^uu-ment-* “rich in oxen”, comparable to Skt. *kṣu-mant-*, *paśu-mant-* and Av. *fšu-mant-*.

Western Hispania has given at least two more instances of divinities related to cattle, both in Callaecia: POEMANAE (Lugo) and LARI PEMANEIECO (Orense). Both can be safely traced back to a nomen agentis **poH₂i-mVn-* “nourishing, feeding” (*vel sim.*) attested with slight differences in Gk. ποιμήν “shepherd”, Lith. *piemuō* “shepherd”, OSax. *fēmea* “virgin” (**poimniā*) and the Italic theonyms Umb. (dat.sg.) PVEMVNE and Mars. (locative construction) POIMVNIEN “in the shrine of Poimonos” (Untermann 2000), and underlying the Roman goddess name *Pōmōna*, traditionally related to fruits and vegetables probably only because a paronymological process refashioned her original, no longer transparent name, so it would look more like *pōmum* “apple”. A Germanic people of the Gallia Belgica was called the *Paemani* (Caesar, *B.G.* 2.4.10, perhaps a corrupt reading for *Faemani*, since their name is preserved in the place name *Famenne*, Ardennes).

Most recently, Lindeman (2006) has ingeniously suggested that the Gaulish personal name *Ambiorix* transmitted by Caesar, that referred to a prince of the Belgian tribe of the Eburones, conceals more than meets the eye. He posits a compound **H₂m̥b^hi-péH₃-/pH₃-ó-*. As a consequence of the considerable importance of the phonological changes which the inherited compound had undergone on its way into Celtic, the origin of **ambio-* must have been gradually forgotten. In order to better characterize the morphologically nontransparent **ambio-* “protector, ruler, king”, the word **-riḡ-* “king” was added to it, giving rise to a new compound **ambio-riḡ-*. After the loss of /p/ in Celtic, however, there is little left but speculation, and the evidence for the survival of this root in Celtic remains inconclusive.

As regards the suffix of OIPAINGIAE, Lusitanian divine names are often enlarged by velar suffixes with an endocentric value, that is to say, they add nothing to the actual names and do not express a relationship to a different reality. In other words, it only means that we have

to place the name in the adjectival slot of an original formula like †DEAE OIPAINGIAE “cattle-protecting goddess” before OIPAINGIAE was generalized as an independent name. *-(a)inkio- is not, in contradistinction to -ikio- or -aiko-, an especially common suffix in western Hispania, but it is attested at least once in the epithet ALBVCELAINCO (Viseu, Portugal), a derivative from a Celtic place name *alb-okelo- meaning “(divinity) of the white hill(fort)”. Thus, it is unnecessary to assume that an -n-stem is somehow involved in the formation of OIPAINGIAE.⁹

One could object to the above hypothesis that the derivational basis is a place name, a very common phenomenon in the region, since Lusitanian divinities are often mentioned only as protectors of a village by means of a place name provided with a velar suffix. In that case the etymology would remain unchanged but the overall sense would be different: The place name would originally designate a sheepfold or pen, where sheep were kept enclosed. What makes me provisionally reject this second possibility is that we would expect as a basis not a primitive *nomen agentis* but a *nomen instrumenti* or perhaps a determinative compound like in English *sheepfold*, *sheepcote*, OHG. *ewist* “sheepfold” from *H₂euī-stH₂o- or Celtiberian *boustom* “cow stall” from *g^hou-stH₂o-, which is identical to Skt. *go-ṣṭhā*, or even W. *buarth* “cow stall” from IE *g^hou-*g^horto*.

3. Postscriptum.

A final remark is now in order. I have no doubt that the dialectal adscription of OIPAINGIAE to the Lusitanian language, in spite of the increasing number of words containing etymological /p/ attested in western Hispania

⁹There is, however, a slight possibility that a *nomen agentis* *oui-p(e)H₂lo- underlies OIPAINGIAE. A number of names in Hispania attest to a change *-Vlikio- > -Vilkio-/-Vilko-, like SAILGIVS, SAELGIVS (some instances also in Castelo Branco!). Thus, *oui-pā/āl-ikīā might have evolved into †OIPAILGIA, which is only one step from the attested form. Unfortunately, n/l variation is only common as the product of dissimilation in the vicinity of a nasal. Then, a derivative from a refashioned *oui-pānā similar to the equally secondary POEMANAE (Lugo) is thinkable.

and the fact that western Hispano-Celtic has regularly lost it, will not be immune to the objection that it is “pre-Proto-Celtic”, that is, an ancestor of Common Celtic that allegedly preserves /p/. This idea, which goes back to J. Untermann (1987) and is followed by his disciples, is only rooted in the preliminary (and completely unwarranted) hypothesis that only one Indo-European speaking population group ever set foot in the Iberian Peninsula before 218 BC and the Roman conquest, and that it was Celtic (it had to be, because the idea is based on the ascription of Celtiberian to the Celtic family and on the existence of an imaginary line that divides Hispania into two vast regions, the Indo-European one characterized by its *-brig-* toponymy, and the non-IE one which has mostly prefixed *il-* in the corresponding slot).

Unfortunately, the idea that the Lusitanian language is “Celtic” has been enlivened by J. Koch’s recent theories on Tartessian being a Celtic language (although it should be in principle completely independent from it and any conclusions on the dialectal status of Lusitanian are by no means a test of its validity), to the point that some scholars, specially archaeologists, have now started playing around with the notion that Celts originally spread from the Iberian Peninsula. The basic idea is that Lusitanian, being more or less equal to Proto-Celtic, shows archaic features, such as retention of /p/, that was lost somehow on their way into Central Europe. It is shared by scholars with somewhat different standpoints as it looks compatible with their more general view of the prehistory of Indo-European invasions or waves of advance, and sometimes it is not explicitly stated, so that one should be very careful about it.

Perhaps the most serious consequence of this is that it finds support in some claims to the effect that a number of European languages which are attested close to some definitely Celtic language (and consequently influenced by it), are in fact residual, *p*-preserving Celtic languages themselves. Thus, for instance, the few Ligurian attestations that actually preserve *p*, such as the river names *Porco-bera* “carrying perch” (today the *Val Polcèvera*), and *Vind-upale* “crooked river” (Prósper 1998, cf. Lith. *viñd-upis*) are considered Celtic by P. De Bernardo Stempel (2009); even Venetic, that is demonstrably Italic, whatever its areal links

with the Balkanic languages may have been (Prosdocimi and Marinetti 1990-91, etc.) is labelled as a Celtic language by Gvozdanović if I understand her correctly (2009).

On the other hand, no single word has ever been found in a western Hispanic inscription that shows the combined evidence required to posit a *p*-preserving, yet plausibly Celtic dialect, such as a word with etymological /*p*/ and a change $-CrG > -CriG$. The notion that our few Lusitanian inscriptions must be Celtic because they contain $-brig-$ place names, or simply because there are demonstrably Celtic places in $-brig-$ all over western Hispania, is as preposterous as saying Spanish or French are Celtic languages because the descendants of $-brig-$ and $-dūnum$ names do exist in Spain and France (pace Untermann 2010: 85). What underlies this idea is simply that everything must belong to the same language stock, which is nothing but a distortion of Occam's razor, and grossly suggests that Celticity is being somehow ignored or underrated by scholars who tackle a more fine-grained analysis, which is very far from true. If we accepted Untermann's rigid view as he states it, the problem of names with /*p*/ coexisting with names without /*p*/ in western Hispania would become intractable.

In itself, all this adds up to a *reductio ad absurdum*, since by the same token nearly every western IE language, especially Italic, could be termed "proto-Celtic" or "para-Celtic", even if some of them, in spite of being so conservative in the way of *p*-retention that this feature alone compromises the notion of celticity, have gone wild sometimes and have /*f*/ or /*h*/ from the IE mediae aspiratae and a different result of interconsonantic 'vocalic' sonorants, like Italic and Lusitanian. If one wants to stretch the notion of 'celticity' beyond reason, one had better abandon this term and use 'western-Indo-European' instead. Unfortunately, this kind of all-embracing idea that strives to absorb every new piece of evidence, no matter how incompatible with the 'right' idea, can never be falsified by scientific means, and its success is due to the persistence of romantic pan-Celtic notions taking on new appearances.

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Correlation of the Burushaski Pronominal System with Indo-European and Phonological and Grammatical Evidence for a Genetic Relationship

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The Burushaski personal and demonstrative pronominal system is correlated in its entirety with Indo-European. This close correlation, together with the extensive grammatical correspondences in the nominal and verbal systems (given as an addendum), advances significantly the hypothesis of the genetic affiliation of Burushaski with Indo-European. The article includes a comprehensive discussion of the Burushaski-Indo-European phonological and lexical correspondences. It proposes that Burushaski is an Indo-European language which at some stage of its development was in contact with an agglutinative system.

1. Introduction

1.1. Brief overview of sources and previous studies

Being a language with undetermined genetic affiliation, Burushaski has attracted considerable interest, especially in the last twenty years, but also earlier. There have been many attempts to relate it to languages as diverse as Basque, Nubian, Dravidian, various Caucasian as well as Yeniseian languages, Sino-Tibetan and Sumerian (for a brief overview, see Bashir 2000:1-3). These endeavors have failed mostly because of unsystematic or inconsistent correspondences, incorrect internal reconstruction, excessive semantic latitude and incoherent semantic fields, root etymologizing and especially lack of grammatical and derivational evidence.

Burushaski is spoken by around 90,000 people (Berger 1990:567) in the Karakoram area in North-West Pakistan at the junction of three linguistic families — the Indo-European (Indo-Aryan and Iranian), the Sino-Tibetan and the Turkic. Its dialectal differentiation is minor. There are

three very closely related dialects: Hunza and Nager with minimal differences, and the Yasin dialect, which exhibits differential traits, but is still mutually intelligible with the former two.

The earliest, mostly sketchy, material for Burushaski is from the mid to late 19th century (e.g. Cunningham 1854, Hayward 1871, Biddulph 1880, Leitner 1889). The limited dialectal differentiation and the lack of older attestations make the internal historical reconstruction extremely difficult.

The fundamental sources for the description and study of Burushaski are considerable and of very high quality. Most notable and authoritative is Berger's (1998) three-volume work on the Hunza-Nager dialect (grammar, texts and a Burushaski-German dictionary). Still very relevant is Lorimer's earlier ground-breaking three-volume work on Hunza-Nager (1935-1938) and Yasin (1962) Burushaski. Edel'man-Klimov's (1970) analysis, revised and summarised in Edel'man (1997) is valuable in the quality of the grammatical description. Willson's (1999) compact basic Burushaski vocabulary is also very useful. Fundamental for the study of Yasin Burushaski are Berger's (1974), Tiffou-Pesot's (1989b), Tiffou-Morin's (1989a) and Zarubin's (1927) grammars and vocabularies. A new corpus of Burushaski texts from Hispar, annotated, commented and translated, is provided by Van Skyhawk's (2003) remarkable book. We note Anderson's valuable contributions to a better description and understanding of Burushaski phonology (Anderson 1997), morphology (Anderson 2007) and syntax (Anderson-Eggert 2001).

Very important in establishing aspects of the historical phonology and morphology of Burushaski and its internal reconstruction is Berger's (2008) posthumously published synthesis.

Typologically, Burushaski is a nominative-ergative language, with the predominance of nominativity and with rudimentary characteristics of an active structure. It is essentially a language of an inflectional-agglutinative type, with elements of analytism in the noun and the verb. The constituent order is SOV. The predicate-verb agrees by the addition of postfixes with the subject and with prefixes with the direct or the indirect object. The noun in the

subject function is used in the absolutive case (nominative construction) or the oblique (genitive-ergative, i.e. an ergative construction) depending on the semantics and the aspect-tense form of the verb. (This typological description is directly based on Edel'man (1997:2.3.0 and 2.5.3). Burushaski also makes use of postpositions. 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 used for counting (newer analyses posit four or more classes (Anderson 2007). In essence it distinguishes the categories: human (fem. and masc.) vs. non-human, and countable vs. uncountable. It has the category of inalienable possession (in names of body parts, kinship terms, etc.) expressed by pronominal forms prefixed to the noun. Berger (B I: 63) distinguishes in Burushaski five general grammatical cases — *casus absolutus*, genitive, ergative, dative-allative and general ablative, and a number of lexicalised 'specific' composite (e.g. instrumental, locative etc.) and fixed (e.g. locative) cases. It has a large number of noun plural endings (some 40) for which there is an array of possible explanations (refer to our full analysis in 8.1.1). The typological similarity of the Burushaski verbal system with Indo-European was noted first by Morgenstierne (1935 XI) who remarked that the Burushaski verbal system "resembles to some extent the Latin one". This assessment was reaffirmed by Tiffou and Pesot (T-P 33-34): "The Burushaski [verbal] system seems comparable with the system of ancient Greek: two aspects, one used in three tenses, the other in two tenses, and a third aspect without any particular tense value". For the close correspondence of the Burushaski verbal system with Indo-European, refer to 8.2. and Čašule (2003b: 8.2).

In Čašule (1998, 2003a, 2003b, 2004, 2009a, 2009b, 2010), we have correlated Burushaski with Indo-European, outside of Indic and Iranian, and in our etymological analyses we have uncovered consistent and systematic lexical, phonological and most importantly, extensive and fundamental grammatical correspondences (the latter are

outlined in Čašule (2003b: 69-79) and significantly expanded in the Addendum (8.) of this article. On the basis of the analysis of over 500 etymologies (with well over 1000 derivatives) and the highly significant correspondences in the grammatical and derivational system (noun stems, nominal case endings, nominal plural endings, the verbal system and prefixes, suffixes and endings, the complete non-finite verbal system, all of the adjectival suffixes, the entire system of demonstratives, personal pronouns, postpositions, adverbs, etc.), we conclude that Burushaski displays characteristics of a language which could have had an early relationship or contact in its history with the Southern (Aegean) branch of Indo-European on the one hand (see esp. Čašule (2004) on the possible correlation with Phrygian¹) and with the Northern/Western IE group on the other. The correspondences (over 70 of them) in the core vocabulary of names of body parts and functions can be found in Čašule (2003a). Eight new correspondences in this semantic field, put forward in Čašule (2009b) bring the total to ~80.

For a recent appraisal of this evidence, see Alonso de la Fuente (2006).

The Burushaski numeral system is correlated with Indo-European in Čašule (2009b). In an extensive analysis and comparison of the Burushaski shepherd vocabulary with Indo-European Čašule (2009a) identifies some 30 pastoral terms that are of Indo-European (non-Indo-Iranian) origin in Burushaski, one third of which show direct and specific correspondences with the ancient Balkan substratal layer of shepherd terms in Albanian, Romanian and Aromanian.

¹More recently the eminent Russian archaeologist L. S. Klein (2007, 2010) has published two major studies on Indo-European ancient migrations. He devotes an entire chapter (Klein 2007: 108-120) specifically to the migrations of the Phrygians/Bryges from the Balkans. On the basis of archaeological evidence, historical sources, some linguistic aspects and mythical and religious comparisons he traces their movement from Macedonia via Asia Minor, Central Asia and most importantly all the way to Swat in North-West Pakistan, very close to the Burushaski speaking areas. He argues for an early contact between Phrygian and Sanskrit.

Čašule (2010) focuses specifically on the original Burushaski Indo-European (non-Indo-Iranian) vocabulary that contains the reflexes of the Indo-European gutturals. It provides a full etymological analysis of some 150 autochthonous Burushaski stems (with many derivatives) and establishes correlations with various Indo-European branches.

The extensive and full correspondence of the Burushaski kinship terms (32 terms) with Indo-European is analysed in Čašule (2012b).

The correlations between Burushaski and substratal and archaic Modern Macedonian and Balkan Slavic vocabulary are discussed in Čašule (2012a). Eric P. Hamp (R), in the review of this article, based on the full body of evidence, and in support of our work, states: “Burushaski is *at bottom* Indo-European [italics EH] — more correctly in relation to IE or IH, maybe (needs more proof) IB[uru]” and further conjectures: “I have wondered if Burushaski is a creolized derivative; now I ask (Čašule 2009a) is it a shepherd creole ? (as in ancient Britain)”. This statement goes hand in hand with the tentative conclusion that Burushaski might be “a language that has been transformed typologically at some stage of its development through language contact.” (Čašule 2010: 70).

1.2. Burushaski phonological system and internal variation

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 **čh** — for Ys Burushaski, see Tiffou-Pesot (1989:7-9):

	a				š	ś	s		
e	o	qh	kh	th	th	čh	čh	ch	ph
i	u	q	k	ṭ	t	ç	ć	ć	p
		ġ	g	ɰ	d		j	z	b
			ñ		n				m

y h l r

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

(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. **ḡ** = **ɣ** in Lorimer and Tiffou-Pesot (1989). It is a voiced fricative velar /ɣ/. See further Čašule (2010:14-18) on the extensive variation between **ḡ** and **g**.

6. **ṅ** = [ŋ] or [ng] [nk].

7. The posterior **q** is similar to the Arabic **qāf**. “**q** ist ein stimmloser dorsaler Verschlusslaut, der weiter hinten als **k** gebildet wird” (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** (Tiffou 2004b: 10).

9. **y** is a retroflex, articulated somewhere between a “**r** grasséeyé and a **g** 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 pronominal prefixes.

We outline some of the phonological processes, alternations, changes, adaptations (in borrowings) and internal variation that have been identified synchronically and diachronically for Burushaski. For copious examples and discussion refer to Čašule (2003b: 24-29), Čašule (2004: 52-55), Berger (2008) and especially Čašule (2010: 5-11, 14-18).

[1] Hz Ng **í** : Ys **é**. (Berger 2008: 8-10.)

[2] **i:u** in front of **l**, **r**. (Berger 2008: 2.10.)

[3] **e** > **a** in unstressed position (in Hz Ng) (B 1: 2.5).

[4] **o** : **u**. There is a scarcity of minimal pairs for the opposition of **o** and **u** and they coalesce/alternate in various environments (esp. in unstressed position) (Berger

2008: 2.1, also B I: 2.18).

[5] **h > y** in postvocalic position.

[6] Variation **-we- : -wa-**.

[7] Change **w- > b-**. (Čašule 2010: 6-8).

[8] Voiced consonants are devoiced in word-final position.

[9] In many cases, voiceless stops are voiced in the anlaut or have both voiced and voiceless allophones — **p- > b- k- > g-, t- > d-**. See the examples and discussion of this alternation/change in Berger (2008:3.11.).

[9a] **p-, ph- > : b-** Čašule (2003b: 40-41) (Berger Ibid).

[9b] Change/alternation **t- > d-** and **ṭ- > ḍ-** (Čašule 2010: 9), with the direction of change sometimes unclear as e.g. in Bur **tasmuzá** < Pers **dast mūzah** (Berger 2008: 23) which reflects a **d > t** change, see Berger (2008: 3.11-3.12).

[10] Alternations of retroflex stops: **t : ṭ** and **d : ḍ**. For an extensive discussion of the development of the retroflex stops with many examples, see Čašule (2003b: 26-28) (2010: 10).

[11] **t : th**. There are numerous (over 50) examples of a **t : th** alternation Čašule (2010: 10).

[12] Alternation **m : b** (B I:82) (also Berger 2008: 3.21, who points out that the direction of change cannot be determined).

[13] Change **ñ [ng] [nk] > m**.

[14] Variation Ys **ny** > Hz Ng **y**.

[15] Alternation **čh, č : s** (in anlaut also **z-**).

[16] Variation **p : ph**.

[17] “The intervocalic stop of disyllabic roots is rarely a media.” (...) There are no roots with medial **d, ḍ** or **b**.” (Morgenstierne 1945: 73).

[18] Alternation in a few cases of **j : ġ**.

[19] Alternation **y, ṽ : j** : Ys **yótes** : Hz Ng **joṭis** (B 228); Bur **yaqhú** < Turk **jakki** (B 472); Bur **jú-** (present stem) : **d²-y(a-** (B 235); **ġayámiso** : **ġajámiso** (B 166).

[20] **f > ph (:p)**.

[21] **k : g, k > g** (Čašule 2010: 14-15).

[22] Extensive variation of **g** and **ġ** (L 176).

[23] Dialectal alternation **q : ġ** in intervocalic position (Varma (1941: 141) and Morgenstierne (1945)).

[24] Alternations of **k**. **k** : **q**, change **k** > **q** = (in loanwords), **k** : **kh**, **k** < **kh**, **k** > **kh**, **k** > **qh** (in loanwords), **kh** > : **qh**, **q** : **qh** (Čašule 2010: 14-18, with numerous examples).

[25] For **-rk-** < **-rg-**, note Berger (2008: 4.17) who states that after **r** media are (generally) voiceless.

Summary of phonological correspondences between Indo-European and Burushaski

IE a	>	Bur a
IE e	>	Bur e : Hz, Ng i
IE e (unstr.)	>	Bur a
IE ē	>	Bur ée , i
IE o	>	Bur ó
IE o (unstr.)	>	Bur a , u
IE ō	>	Bur oó , óo
IE i	>	Bur i
IE u	>	Bur u
IE ai , ei , oi ; eu	>	Bur a
IE au , ou	>	Bur u
PIE h₁-	>	Bur h-
PIE h₁e-	>	Bur he-
PIE h₁uer-	>	Bur har- : -war- : her-
PIE h₂-	>	Bur h-
PIE h₂e-	>	Bur ha-
PIE h₂ue-	>	Bur -we- : -wa-
PIE h_a-	>	Bur h-
PIE h_ae- > h_aa-	>	Bur ha-
PIE h₄-	>	Bur h-
PIE h₄e- > h₄a-	>	Bur ha-
PIE h₃-	>	Bur h-
PIE h₃e- > h₃o-	>	Bur ho-
PIE h_x-	>	Bur h-
PIE h_{1/2}i-	>	Bur i-
IE l , m , n , r	>	Bur l , m , n , r
IE u	>	Bur -w/-u
IE u-	>	Bur b- , also m- (rare)
IE y	>	Bur y/i
IE μ	>	Bur -um , am
IE ŋ	>	Bur -un , -an
IE ʀ	>	Bur -ur , -ar
IE ʎ	>	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) : ʈ , also d-
IE d	>	Bur d
IE dh-	>	Bur d-
IE VdhV	>	Bur -t-, -ʈ-
IE k	>	Bur k : kh , k : q ²
IE k^w	>	Bur k
IE k̂	>	Bur k : kh , k : q
IE g	>	Bur ġ
IE gh	>	Bur g
IE g^w	>	Bur ġ
IE g^wh	>	Bur ġ
IE ġ̂	>	Bur g , ġ
IE ġh-	>	Bur g , ġ
IE s	>	Bur s or s : ç , çh
IE ks	>	Bur ś

Table 2. Summary of Burushaski—Indo-European phonological correspondences.

1.4. Phonological correspondences between Burushaski and Indo-European

In order to make it possible to see the analysis of the demonstrative and personal pronouns in a wider frame, we give an overview of the phonological and some of the lexical³ correspondences between Burushaski and Indo-European. For reasons of space, and because they are well known, the Indo-European stems are given without their distribution in the various branches. Such a brief exposition is extrapolated from our fully etymologically analysed entries, with some inevitable loss of detail especially in the semantic correlations. Its summary character has also meant omitting some of the analysis of secondary phonetic processes (assimilation, dissimilation, analogy, alternation (e.g. **i:u**, **e:i**), secondary retroflexion or aspiration, effects of nasals on preceding vowels, etc.)

²For a detailed description and analysis of the alternations of **k** (**k:kh**, **k:q**, **k:qh**, **kh:q**, **q:qh**) and **g:ġ** in Burushaski, see Čašule (2010: 14-18).

³There are ~150 additional lexical correspondences not included here because of reasons of space.

which would have required additional exemplification and elaboration.

Apart from the precise and consistent preservation of the IE laryngeals, some of the salient features of the Burushaski phonological system are the velarisation of the palatovelars (i.e. the palatovelars, labiovelars and velars have coalesced), the monophthongisation of the diphthongs, the conservative nature of its vocalic system in general, the alternation **s** : **ć** , **čh**, the rare voicing of voiceless stops in the anlaut, devoicing of **-dh-** in the inlaut, betacism (**u-** > **b-**), etc.

Most of the Burushaski correspondences selected here correlate with widespread and old stems and formations in Indo-European. We have also included some of those that are more localized and sparsely distributed, which could turn out to be archaisms wherever they occur.

Semantically, the correspondences are in basic semantic fields, for example: body parts and functions (over 70 stems), kinship terms (~30), shepherd vocabulary (~30), natural phenomena and geographical features (~50), flora (~10), agriculture (~10), mind, emotion and sense perception (~25), insects (~10), house and construction (~12), adjectives (~40), basic non-periphrastic verbs (~60), periphrastic verbal expressions (~50) etc.

Berger (1998) gives a very careful account of words that may be of Indo-Aryan (including “Sanskritisms”) or Iranian origin in Burushaski. His methodology in this respect, apart from his own fieldwork and of others, like Lorimer, Morgenstierne etc, is to look up and check very carefully against the index to Turner’s (1966) *A Comparative Dictionary of the Indo-Aryan Languages*. Wherever there is a match, regardless whether the word is found in Shina, Khowar or anywhere in Indo-Aryan, Berger indicates the lemma number in Turner. Interestingly, 45 Indo-Aryan stems indicated by Berger are not found in Shina or Khowar, but appear in Burushaski and could be in some cases an overlap. They are not taken into account in our Indo-European comparisons. Thus almost all words marked as T in Berger are excluded from the comparisons with Burushaski, as well as all Urdu matches. Any possible Iranian loanwords have been checked by Berger against Steblin-Kamenskij’s (1999, possibly an earlier version)

Wakhi etymological dictionary, earlier also by the eminent Iranist, Edel'man.⁴ Thus, Berger's indications as to which words and forms are indigenous in Burushaski are highly accurate and exhaustive.

Furthermore, the Burushaski material has already been sifted carefully for Persian, Urdu and Indo-Aryan loanwords by Berger, Lorimer, Morgenstierne, Zarubin, Edel'man, Klimov, Varma, Tiffou, Buddruss, Tikkanen and other scholars who have studied the language — their findings are conveniently mostly incorporated in Berger (1998). The main source I have used for further comparison with Indo-Aryan is Turner (1966) and with Persian, Steingass (1999) [1892].

To be even more certain, in addition, the Kalasha, Khowar, Dardic, Burushaski and Urdu specialist Elena Bashir of the University of Chicago has looked carefully at all of our material in order to sift again the etymologies for any Indo-Aryan loanwords.

1.4.1. Vowels

IE **a** > Bur **a**

—IE ***kar-** 'reprove, scold, revile; praise' (IEW 530) : Bur **du-khár-** 'deny, repudiate, reject, refuse compliance' (B 252), **éal-kharás** 'violent dispute' (B 83).

—IE ***gar-** 'shout, call' (IEW 352) : Bur **gar-** 'speak, scold; to sound' (B 170).

—IE ***lap-** and a nasalised form ***la-m-p-** 'to shine' (IEW 652) : Bur Ys **lap**, **laláp**, Hz Ng **lam**, **lálam man-** 'shine, burn, light up; to beam' (B 261).

—IE ***mar-** 'hand; grasp' < ***h₁em-**, ***meh₁-** 'take, lay one's hands on, grasp, receive in hand' (IEW 310-311, 740-741): Bur **d-mar-** 'take s-thing from s-one's hands; receive, pick up, take load', **d-mar-** Ng 'offer hand to be kissed' (B 280-281), Bur **marmúk** 'handful' (B 282) < Ys **d^hemia-** 'gather, collect, obtain, get; harvest (fruit)'.
 —IE ***kat-h₂e** 'down, with' (Hitt **katta** 'down, with, by, under') (M-A 169) : Bur Ys **khaṭ**, Hz Ng **qhaṭ** (in L 239, also **kat**) 'down' (B 348) and the postposition **-káaṭ**, and adverb

⁴I note here with gratitude the early support for my work by Dz. Edel'man and G.A. Klimov.

kāat, (in LYs 155, also **-kāt** and **-khāt**) ‘with, along with’ (B 238).

—IE ***pāk-**, ***pāk-** and ***pāĝ-**, ***pāĝ-** ‘fasten; strengthen; parts to drive in, peg, post’ (IEW 787-8) (M-A 64: IE ***peh_aĝ-** ~ ***peh_ak-**) (Wat 61) : Bur **-phágo** ‘stick, staff’ (B 320), and **phan man-** ‘push, press forward’ (B 322) < IE ***pa-n-ĝ-**, ***pa-n-k-** (Lat **pangō** ‘drive in’).

—IE ***(bh)sa-** (in words for ‘sand’), ***bhs-amadho-** (Gk **psámathos** ‘sand’), ***(bh)sa-dhlo-** (Lat **sabulum** ‘coarse sand’) < ***bhes-** ‘to rub’ (Wat 11) : Bur Hz Ng **sáo** (Ys **sáu**) pl. (**-o** and **-u** are pl. endings), double pl. **sáomin** ‘sand’ (B 374) (also Bur **bastáo** ‘a type of flour’ and perhaps **baspúr** ‘fodder for horses’) (B 42-43).

IE e > Bur e

—IE ***k^we** ‘and’ (e.g. Lat **-que**) (IEW 635) : Bur **ke** ‘also, too, and’, emphasizing particle; indef. particle after interrogative pronouns; conditional particle (B 244).

—IE ***ser₂** ‘protect’ (‘keep, nourish, feed’) (IEW 910) : Bur Ys **-ser-** and **-sir-** Hz Ng **-sir-** ‘feed, make eat; make drink; serve food to a guest’ (B 379).

—IE ***ĝhyem-**, ***ĝhiem-** ‘winter, snow’ (Wat 28) : Bur **ge**, L also **gye** and Cunn. **gye** ‘snow’, Ys **ge**, **gye** (L 165) (B 151), which could go back to forms with **-m**, as the Ng pl. ending is **-min**, i.e. the pl. form is **g(y)émin** < a sg. ***gyem**.

—IE ***del-** ‘to split, carve, cut’ (M-A2 373) : Bur **dél-** ‘beat, strike, smite, hit, shoot; kill, slay; cut down; bite, sting’ (L 123-125) (Will 36).

—IE ***bherĝh-** ‘high’ (Wat 11): Bur Ys **bérkat** ‘summit, peak, crest, height’ (BYs 133). (For **-rk-** instead of the expected **-rg-**, note Berger (2008: 4.17) who states that after **r** media are (generally) voiceless.)

—IE ***ne** ‘not’ (M-A 395) (IEW 756-758: ***ne**, ***nē**, ***nei**, neg. particle) : Bur **ne.....ne** ‘neither’ as opposed to Bur **na** ‘neither...nor’ which is a borrowing from U **nah** (B 298), and further Bur **nū** ‘not’ (B 303) which can be derived < IE ***nē**.

—IE ***pen₁** ‘to feed, fatten; food, nourishment’ (IEW 257) : Bur **d-pipin-**, Ys **d-pepen-** ‘to swell (from eating a lot)’, **d-spipin-** ‘make swell up, to fatten; make angry’ (B 315).

—IE ***uel-**, ***uelə-** ‘to deceive’ (Lith **vilti** ‘to deceive’) (IEW

1140): Bur Ys **-wélji**, Hz Ng **-úlji** sg. and pl. ‘dream, in dream’ (loc. in **-cí**) (B 454).

—IE ***urenk-**, ***uronkā-** ‘bend, curve’ (> Balt-Sl ‘hand’) : Bur Ys **-rén**, Hz Ng **-riiñ** ‘hand’ (B 364).

—IE ***mend-**, ***mond-**, (***mṃd-?**) ‘suckle, (feed) young animals’ (IEW 729) (e.g. Rom **mînzare** ‘female sheep (for milking)’, **mînzar** ‘one year old lamb’ (Balkan substratal) Brâncuș (97-100) : Bur **meénis** ‘female sheep over one year old which has not had young’ (B 285) : ***mendis** > **meénis**, with loss of **-d-** and compensatory lengthening of **-e-**. Also Bur **munpáq** ‘grown big, developed (of a child or young animal)’ (L 270), (LYs 174 ‘a youth, lad’), possibly from IE ***mṃd-** + ***-ko-**. Perhaps also Bur **múndas**, Ys **búndas** ‘tick’ (B 294) (as a ‘blood-sucking insect’).

IE **e** (unstressed) > Bur **a**

—IE ***bhel-ǵ-** or ***bhel-k̑-** ‘beam, plank’ : (M-A 431) : Bur **balk** ‘plank, board’ (B 34-5).

—IE ***bherag-** ‘yeast bread’ (WP II 165): Bur **barǵúndo** ‘yeast, leavened bread’ (B 30).

—IE ***(s)ker-** ‘turn, bend’ : Bur **d̑-karan-**, **d̑-skaran-**, Ys **d̑-kharan-** ‘to surround, to gather around, to enclose’ (obsolete) (B 242).

—IE ***les-**, ***lās-** ‘weak’ (IEW 680) : Bur **las** ‘without consequence, insignificant, without influence’ e.g. **lasalás guchár-** ‘walk weakly, toddle weakly’ (**guchár-** ‘go’) (B 264).

—IE ***melh₂-**, ***mel-** ‘grind, crush’, ext. ***meldh-** ‘soft’ (IEW 716) (M-A 247) : Bur **maltás** ‘butter’ (B 276) < ***maltar-š** i.e. **máltar-** **-ć-** ‘(ointment) apply, rub’, **du-máltar-** ‘rubbed’ (< ***meldh-ro-**). From IE ***melh₂-** ‘grain, millet’ : Bur **maláo** in **gur maláo** ‘type of wheat’ (B 275) (**gur** ‘wheat’). Bur **máltaǵo** ‘mixture of ground walnut and apricot kernels and dried mulberries’ (B 276) correlates closely with Gk **máltha** ‘mixture of wax and pitch’, perhaps as IE ***m₁d^h-ṃ-ko** (W-I-S 485), cp. to Gk **malthakós** ‘soft, tender, mild’, also Bur **mul** ‘form of food, sort of gruel, flour is stirred into cooking water’ (B 293) (< IE ***m₁-**).

—IE ***mer-əgh-** a guttural extended stem < ***mer-** ‘tie, wind up, roll, twist’ (not found in Ind or Irn) (IEW 733) : Bur **maráq** ‘bend, twist, circuit’, **maráq man-** ‘make a curve, take a roundabout way; turn, turn back’, Bur **marǵúl** ‘curl, curly’

(B 281) (< ***margh-ulo**).

IE \bar{e} > Bur **é**, **i**

—IE ***ghabh-ē** ‘give or receive’ (M-A 563) : Bur **gámi-** ‘pay, refund, reimburse’ (B 145).

—IE ***k^wyeh₁-**, variant metathesised form < ***k^weih₁-** > ***k^wyē-** ‘rest, be quiet’, in words for ‘time’ in IE: esp. with an **-n** extension, e.g. ORuss **čín** ‘time, period’ (Wat 45) (IEW 638) : Bur **khéen** Ys **khen** (Ys L **khyen**) (B 254), **kēn**, **kyēn** (L 232-233) ‘time, space of time, period, season’, NH also ‘celebration’.

—IE ***rēk-** or ***rēk-** ‘arrange, prepare’, (OInd **racayati** ‘produce, fashion, form, make ready’, Goth **rahnjan** ‘work out, reckon’ (IEW 863) : Bur **rik man-** ‘be absolutely ready’, **rik -t-** ‘draw (sword, knife)’, **ririk man-** ‘be ready to strike’ (B 365).

IE **o** > Bur **o**

—IE ***smokur-** ‘chin, beard’ (M-A 107) : Bur **-móqis** (Hz), **-móquš** (Ng) ‘cheek’ **-móqis** (Ys) ‘face’, **-móqoṭ** (Ys) ‘cheek’ (B 291).

—IE ***dhog^wh-eyo-** ‘to burn, warm’ suffixed **o**-grade (caus.) form < IE ***dheg^wh-**: (note esp. PGrmc ***dagaz** ‘day’ (< ‘heat of the day’), Goth **dags** ‘day’ (M-A 124) : Bur Ys **dogói**, Hz **duǵúi** ‘noon’, e.g. **sa duǵúi maními** ‘the sun is in its zenith’ (**sa** ‘sun’) (B 124).

— IE ***g^wer-**, ***g^wor-** (IEW 477), ***g^werh₃-** (Wat 34) ‘mountain’ (Alb **gur** ‘stone): Bur Ys **ǵoró**, Hz Ng **ǵuró** ‘stones’ (B 181).

—IE suffix **-ko**, secondary suffix, forming adj. (Wat 36) : Bur suffix **-ko**, also **-kus**, e.g. **datú** ‘autumn’, **datú-ko** adj. ‘autumn-’, **datú-kus** ‘autumn season’ (B I: 207);

—IE ***h₂ol-** ‘beyond; from that side’ (Wat 2-3) or ***h₂élios** ‘other’: Bur **hóle**, **hólo** ‘out, out of’ and **hólum** ‘outside, other, foreign, strange’ (B 201-202) and most likely the stem in the numeral ‘2’: **altó** yz Ys (Zarubin) **haltó**, **altán h**, **altá**, **altác** *x* (Berger 2008: 10.4).

— IE ***ǵonh₁-** ‘beget; bear; produce; be born’, e.g. Gk **ǵónos** ‘sperm, semen’ and Bur **ǵunó**, Ys **ǵonó** ‘seed (not of cereals); sperm, semen’ (B 180), Ng **gono** (L 186).

IE *ō* > Bur *ō*

—IE **dhē-k-* : **dhō-k-* : **dhə-k-* ‘do, make, put’, extended form of IE **dhē-* : (IEW 235): Bur **doók man-** ‘put, set down’, **doók -t-** ‘build, make, place a stone’ (B 121).

—IE **dhō-mo-* ‘pile’ (IEW 238) (**dhoh₁mo-*) : Bur **dúuman** ‘pile, heap’ (B 127) (with prev.).

—IE **uodō(r)-* ‘water’ (Wat 95): Bur **budóo** ‘rinsing water’ (B 61).

—IE **iōs-to-s* (< **ioh₃s-to-s* < **ieh₃s-to-s* (Wat 103) ‘belted; girdle’ (IEW 513) : Bur **-óşcum**, Ys **-óştum** ‘waistcloth, waistbelt’ (B 308) (role of stress and pron. prefixes > *o*).

—IE **mō-s-* < **mō-* : **mē⁻⁵* (Wat 51: < **meh₁-*) ‘have a strong will; be intent on’ (esp. Goth **mōþs (-d-)** ‘courage, anger’) (IEW 704-705) : Bur **-móos** ‘anger, rage, temper, annoyance’, **-móoskiş** ‘prone to anger, wrathful, violent tempered’ (B 291).

IE *i* > Bur *i*

—IE **dhh₁ileh_a-* ‘teat, breast’ (M-A 82): Bur Ys **-díł**, Hz Ng **-ndíl** ‘breast, chest’ (B 302), and with *i* : *u* / *_l* : Ys **dúlas** ‘boy, young lad’ (BYs 142), (cp. with Lett **dēls** ‘son’, Alb **djalë** ‘boy, young man, son’).

—IE (*h_x*)*ih_x-ni-* (*h₁eih_x-*) ‘ice’ (e.g. Lith **ýnis** ‘glazed frost’) (M-A 287) : Bur **hío x pl** ‘hail’ (*-o* is the pl. suffix) (B 200), Hz **hiən** ‘hail’ (Varma 153).

—IE **ġhi-* (M-A 245), **ġhh_ai-* (M-A 537) ‘throw’ : Bur Ys **gi** -, Hz Ng **gíy-**, imp. **gi** ‘to throw or cast down, fling; throw in; to attack’ (B 155).

—IE **pitus* ‘food’ (< **peih_x-* ‘be fat, swollen, overflowing’) (M-A 208) : Bur **phítı** ‘sourdough bread in thick round cakes; food in general’ (B 332).

—IE **sē(i)-*, **si-* ‘to tie, bind’ (Buck 546) : Bur **d-çi-**, Ng **d-çi-** ‘to tie, tighten’ (B 76).

—IE **h₂eim-* and zero-grade **h₂im-* ‘copy’ (Wat 2): Bur **imán** ‘duplicate’ (B 213).

IE *u* > Bur *u*

—IE **bhuġos*, **bhuġnó* ‘buck, he-goat’ (M-A 229) : Bur **buhéni** NH ‘goat with certain distinctive features on the head’ (B 63).

—IE *bhāġhus* ‘(fore)arm’ (M-A2 180) : Bur **baġú** ‘double

armful', **bağúç** 'small double armful' (B 30).

—IE ***bhrúh_x-s** 'eyebrow' (M-A2 175) : Bur **bur** (also **būr**) 'a single hair', **Ꞥlpur** 'eyelash', **Ꞥlpurkiš** 'with thick eyebrows' (B 268).

—IE ***sunk-**, ***suenk-** 'heavy' (IEW 1048) : Bur **čuúm**, Leit **tshung**, Cunn **chung** 'heavy, overweight, burdensome, slow' (Will 118).

—IE ***seug/k-** 'to suck(le)' (with zero-grade ***sūg-**, ***sūk-**) (G 570) : Bur **šuk** **Ꞥt-** 'to slurp, lick up, lap, sip', also **šik** **Ꞥt-** 'to slurp' (B 411) (with expressive **š**).

—IE ***meug-** 'slimy, slippery' (***muk-so-** > Gk **muxa** 'mucus', also Lat **mūcus** 'mucus' (Wat 55-56) : Bur **-mús** 'snot, nasal mucus', Ys also 'nose', **-múskiš** 'snotty-nosed' (B 296) (LYs 178) (**ks** > **ś**, from the zero-grade).

1.4.2. Diphthongs

IE **ai** > Bur **a**

—IE ***ġhais-os-**, ***ġhais-es-** 'a stick, spear' from IE ***ġhi-** 'throw' (M-A 537) : Bur **ġasíl** 'individual stick or sticks' (B 173). From ***gas-i-lo** (cf. **-díl** 'breast, chest' < ***dhi-lo**), and this from Bur Ys **gí** -, Hz Ng **gíy-**, 'throw or cast down, fling; throw in; attack' (B 155) (**sos** > **ss** > **ś**).

—IE ***baiteh₂-** 'goatskin, cloak' (M-A 109-110) : Bur **bat** 'goatskin, sheepskin' (B 44).

—IE ***(s)tāi-no-** 'stone' (IEW 1010) : Bur **dan** 'stone' (B 113).

IE **ei** > Bur **a**

—IE ***ġheim-** 'winter' (IEW 426) : Bur **ġamú** 'ice, frost; glacier' (B 168).

—IE ***g^wheiə-**, ***g^whī-** 'sinew, thread' (IEW 489): Bur **ġay** 'thread in a warp' (B 175).

—IE ***ġheis-** 'used of the emotion of fear or amazement' (IEW 427) : Bur **ġusú** in **Ꞥs** ['heart'] **ġusú** 'to be afraid' (L 175), also **Ꞥs Ꞥs** **ġusu** 'to frighten, intimidate s-one' (B 162).

—IE ***h₁eis-** (in words denoting passion, any strong feeling) (M-A 22): Bur **has -mán-** NH 'astonished, amazed, bewildered, embarrassed' (B 195).

—IE ***leig₃-**, ***loig-** 'tremble, jump' (Gk **elelízō** 'make tremble') (IEW 667-668) : Bur **Ꞥlaq man-** 'shake, tremble', **lāāq man-** '(of branches) moving slowly' (B 263).

—IE ***mei-**, ***mē[i]t-** 'strengthen; pole', ***meith** : ***mit** :

OInd **mít-** f. ‘column, post’, OIcl **meiðr** ‘tree, beam, pole’, Lith **miētas** ‘stake, post’ (IEW 709) : Bur Ys **mátas** (< IE ***meiteh_a-s**) ‘beam (medium-sized)’ (BYs 164), ‘rafter, which rests on the main roof beams’ (LYs 180).

IE **eu** > Bur **a**

—IE ***h₁euk-** ‘become accustomed’ (> ‘learn, teach’, ‘home, dwelling’) (M-A 4) : Bur **hákin** ‘learn’ and **ha** ‘house’ (< ***hak** by Berger (2008: 25) (pl. **hakícañ**) (B 184).

—IE ***bheu-** ‘come into being, be’ (Wat 11-12): Bur **bá-** / **b-** ‘be, exist; copula’ (B 25).

—IE ***keu-** ‘curve, bend’ (Wat 31) : Bur Ys **d²ka-** ‘/to bend, to curve’ (B 253).

—IE ***ieudh-** ‘set in motion, make excited, stir up’ (> ‘incite’) (M-A 507) : Bur **yaṭ** ‘wound, annoyance, pestering, argument’ (B 475).

—IE ***meut-** < ***meu-** ‘wet, dirt; wash’ (e.g. Arm **mut** ‘dark, blackness’) (IEW 741-3): Bur **matúm** ‘black’ (B 284). IE ***meu-r(o)-** ‘wash’ : Bur **marú ét-** ‘wash (for gold)’ (B 282).

IE **au** > Bur **u**

—IE ***pau-kos** ‘little, few; small’ (M-A 200) : Bur **phúko** adj. ‘small, tiny’ (B 334).

—IE ***h₂eulos** ‘pipe, elongated hollow’ (Lat ‘belly’) (M-A 96) > (***h₂aulos**) : Bur **-úl** ‘belly, abdomen’ (with **h/_u** a weak position after pron. prefixes) (B 453).

—IE ***h₂éuh₂-**, ***h₂euh₂ijos** ‘father’s father, ancestor on father’s side’ (M-A 609) : Bur **úu** and **úuy** ‘father, father’s brother’, in pl. ‘forefather’ (for loss of **-h-** note previous ex.).

IE **ou** > Bur **u**

—IE ***h₂óuis** (gen. ***h₂óujios**) ‘sheep’: (M-A 510) (IEW 784 - ***óui-s**) : Bur **huyés** (sg and pl) ‘small cattle (sheep and goats)’ (B 209), Ys also: **huís** (T-P 140).

—IE ***góur-**, (gen. ***gunós**) (IEW 397 ***geuro-s**) ‘body hair, lock of hair’ (M-A 252) : Bur **guyáñ pl** ‘hair of one’s head’ (B 183) (< ***gour-yo-** or ***gun-yo-**).

—IE ***dhroughos** ‘phantom’ (M-A 538) : Bur **dúrgas** ‘ghost of the deceased’ (B 126).

1.4.3. Laryngeals⁵

⁵ In Čašule (2003b), we provide an in-depth analysis of the Burushaski laryngeals and their direct correspondence with the Indo-European

- IE **h₁** > Bur **h** IE **h₁e-** > Bur **he-**
 —IE ***h₁em-** ‘take, gather; distribute’, e.g. OSl **imati** ‘catch, hunt, gather, take’, Lat **emō** ‘take, buy’, distribution in northwest IE (M-A 564) : Bur **d̄-mi-**, Ys **de-hémia-** ‘gather, collect, obtain, get; harvest (fruit)’, **d-ée-mi-**, Ys **de-hémia-** ‘gather together’ (B 287).
 —IE ***h₁néuŋ-** ‘nine’, and more specifically the ordinal form ***h₁néuŋ-(e)tos** ‘ninth’ (M-A 403). Beekes (1995: 216) states that the Gk form **énatos** ‘ninth’ points to a proto-form ***h₁nūŋ-to-** : Bur **huntí**, Ys **hutí z**, **huncó**, Ys **huçó** *hxy* ‘nine’ (B 205).
 —IE ***h₁erh₁-** ‘quiet, at rest’ (M-A 474) : Bur **her** ‘attentive, careful’ (B 197).
 —IE ***h₁erh_s-** ‘be well disposed to someone’ (> ‘be deferential, respectful’) (M-A 197-198) : Bur **hés** ‘accustomed, tame(d), acquainted with’ (L 199: **hées**) (**rš** > **s**) (B 197).
 —IE ***h₁uers-**, ***h₁uer-** ‘rain, drip’ (IEW 81: ‘to flow, to wet; water’) (> ‘urinate’) (M-A 477) (e.g. Gk **ourēō** ‘urinate’) : Bur **hará-**, Ys **hariá-**, Hz **-wara** ‘pissen lassen’, **harás** ‘urine’, **harált** ‘rain’ (B 191-192) (unstressed **e** > **a**) and with **-e-**: **hér-** ‘to weep, cry’ (B 197) (Čašule 2003b: 46), perhaps also **di-áarč-** ‘to rain’ (B 141). From the zero-grade: Bur **hur** (in L (208) Hz **hūr**) ‘conduit for water’ and **húrchil**, ‘the water that flows off at the lower side of a field’ (B 206), and other derivatives, such as **hurógo** ‘perspiration’ (B 206), **hurtá** ‘wet’ (cp. with ON **aurigr** ‘wet’, **aurr** ‘wetness, water’), **hurú** ‘juice’, **hurús** ‘become damp’ (B 207).
 —IE ***h₁empis** ‘gnat, stinging insect’ (M-A 312) : Bur

laryngeals. We follow the approach by Adams and the editorial board of Mallory-Adams (1997: 462) where four PIE laryngeals are assumed: **h₁**, **h₂**, **h₃** and **h₄**. In this set, **h₂** and **h₄** color an adjacent ***e** to ***a** and **h₃** colors an adjacent ***e** to ***o**, and are considered to have been pharyngeal and/or laryngeal continuants (fricatives). The first laryngeal **h₁** does not cause coloring and has been assumed to be a glottal stop. Adams uses the symbol **h_a** when, because there are no Hittite and Albanian forms, it is impossible to determine whether the laryngeal is **h₂** or **h₄**. A generic **h_x** is used when there is evidence for a laryngeal, but its exact nature cannot be determined. Most Indo-Europeanists, if not all, accept the existence of at least one laryngeal confirmed by its attestation in Hittite and other evidence, but the three-laryngeal theory also enjoys wide acceptance, whereas the fourth laryngeal has been more often disputed than not.

hamíso ‘a small insect’ (B 189).

—IE ***h₁eu(h_a)-** ‘leave, abandon, lacking, empty’ : Gk **eūmis** ‘deprived’, Skt **ūnā-** ‘lacking’ (M-A2 319) (Wat 25: ***h₁eu(h₂)-**, zero-grade ***h₁uh₂-** > ***ū-**) : Bur **ho man-** ‘be deprived of, forfeit’ (B 201). **ho** could go back to **hu** or **hū** as e.g. in borrowings from Urdu: Bur **hojará** < U **hujrah** (B 201), or in alternating autochthonous forms: Hz Ng **mon**, Ys **mun** (B 290), Hz **śuǵón** : Ng **śuǵún** : Ys **śoǵón** (B 398). Berger notes the scarcity of minimal pairs for the opposition of **o** and **u** and their coalescence/variation in various environments (esp. in unstressed position) (Berger 2008: 2.1, also B I: 2.18).

—IE ***h₁óuh_xdh_r-** (< ***h₁eu(h_x)dh-** ‘to swell (with fluid)’ (M-A 82), esp. PSI ***udū-** ‘limb, penis’ (throughout Sl e.g. Blg **ud** ‘extremity; leg; membrum virile’) (Jakobson in Vasmer IV: 148) (G 671) : Bur Ys **-hútes**, Hz Ng **-úť** and **-úťis** ‘foot, lower leg’ (B 459) (***hou-** > **u**, ***-dhr-** > ***-tr-** > **-ť-**), and with the common **u** : **o** alternation also Bur **hóti** ‘artificial penis’ (B 203).

IE **h₂** > Bur **h**, IE **h₂e-** > Bur **ha-**

—IE ***h₂en-** ‘to draw liquids, draw water’ (M-A 169) (in Wat 4 ***an-**) : Bur **hánčhil** also **ánčhil** ‘water that flows from a wound’, as adj. ‘watery’ (**čhil** ‘water’) (B 19).

—IE ***h₂eh_x-s-** ‘burn, glow’ (> ‘star, ember’) (M-A 87) : Bur **háas** ‘glowing embers’ (B 184), **hasúman** (Ys) ‘star’ (B 21).

—IE ***h₂erg_x-nt-om** ‘white metal, silver’ (M-A 518) in a word for ‘dragon’, derived from this stem, e.g. Phrygian gloss **argwitas** ‘dragon, Lamia’, in Hesychius (Neroznak 136). In antiquity a Lamia was a mythological woman-snake and there is an exact match with Bur **hargín** ‘dragon which comes into being from a snake’ (B 193). (See Čašule 2004.)

—IE ***h₂erdus** ‘high, lofty’ (> ‘rise out, stand out’) (M-A 269) : Bur **hart man-** ‘spring up, get up, rise abruptly’, **hart** **-t-** ‘lift, raise, hold up, stand up’ (B 195).

—IE ***h₂eluos**, ***h₂eulos** ‘elongated cavity, hollow’ (Lat **alvus** ‘belly, womb; hold of a ship’) (M-A 96) : Bur **halkís** ‘womb’, and from zero-grade: Ys **-lkís** (Hz Ng **-úlgis**) ‘nest; sheath; burrow, hole, den’, and esp. Bur **-úl** ‘belly, abdomen’ in pl. **-úlišo**, **-úliši** ‘bellies, innards’ (B 453-454). Bur **-úlkis** ‘greedy’ could however be a separate form from IE ***h₁elk-** ‘hungry,

ill' (e.g. Cz **lakomý** (also SSL) 'greedy').

—IE ***h₂érios** 'cavity' (e.g. Hitt **hariya** 'valley, vale, dale' (M-A 96) : Bur **har** 'small nullah, ravine' (B 191).

—IE ***h₂óuis** (gen. ***h₂óuios**) 'sheep': (M-A 510) : Bur **huyés** (sg and pl) 'small cattle (sheep and goats)' (B 209), Ys also: **huís** (T-P 140).

—IE ***h₂erh_x-** 'destroy, fall apart; lose' (M-A 158), **o**-grade ***h₂orh_x-** : Bur Ys: **do-hór**, Hz Ng **do-ór** 'to fall down (of cliff, stones, house)', **d'-ur-** 'pull down, knock down (a house), (a person) to hit the ground', N also 'ruin, wreck (work)' (Ys **d'-hor-**) (B 308).

IE **h_a** > Bur **h**, IE ***h_ae-** > Bur **ha-**

—IE ***h_aérh₃ie/o-** 'to plough' (M-A 434) : Bur **har-** 'to plough' (BYs 150).

—IE ***h_aer(h_x-)** 'fit together, attach' (> 'frame, joint, arm') (M-A 26) : Bur **harán** 'among, between, in the middle; jointly owned, in partnership, joint' (B 192). (And further: **áran** 'wooden frame of door; of basket' (B 20) (B I: 25, gives examples of loss of **h-/a, u**).

—IE ***h_aegh-**, ***h_aeghlu-** (in B-K 534: IE ***heg**^[h]-) (M-A 477), which B-K (388) trace to a Proto-Nostratic ***hag-**/***hæg-** 'cover over, hide, overshadow; mist, darkness, cloudy weather' : Bur **hağúm** 'damp, moist, wet' (B 185), and **hak²** 'vapour, steam', which Berger links with **hak¹** 'silver or gold plating' ['covering'] (B 186).

—IE ***h_aeğ-** 'drive' (pres. ***h_aeğe/o-**) (M-A 170): Bur **hağúc** (Ys **hağós**) 'pass, mountain-pass' (B 185), a deverbal noun with sem. development as in IE ***h_aeğmen** : OInd **ájman-** 'career, passage, battle' and IE ***h_aeğro-** 'field' < 'place where cattle are driven', e.g. OEng **æcer** 'field, acre' ('as much as a pair of oxen can plough in one day') and IE ***h_aeğ-ro** 'driving, pursuing, grabbing' : Bur **ğark-** / **-ğárk-** Hz Ng 'drive oxen in ploughing, plough with oxen; catch, seize' (L 11: **-ağárkas**, 180: **-ğárkas**) (B 171-172), (with **-k**-extension, as e.g. IE ***keu-k-** 'to shine, glow; burn' < IE ***keu-₂** 'to light, to burn' (IEW 594-595, 597) : Bur **d'-kukun-** 'light up (firewood, cigarette)' (B 254).

—IE ***h_ael-** 'grow' (pres. ***h_aele/o-**) 'grow, nourish' (M-A 248) : Bur **halés'-t-** 'to raise, rear, nourish' (BYs 150).

—IE ***h_aeug-** 'grow', (e.g. Lat **augeō** 'augment, increase', TochA **ok-** 'grow, increase') (M-A 248) (Buck 876: IE

*aweg, *aug- and *ug-) : Bur **do-hóq-** Ys, **do-óq-** ‘swell out or swell up’, **d-uq-** ‘cause s-thing to swell’ (B 308). (**u** > **ó/_q** under stress), (B I:17). On **q** : **ǵ** in intervocalic position, see Varma (1941:141).

—IE ***h_aenǵhus** ‘narrow’ (Wat 4: ‘tight, painfully constricted’, e.g. Grmc ***ang-** ‘compressed, hard, painful’, ON **ongr** ‘narrow’ (M-A 391), PSI ***ozilū** ‘knot’ (G 638) : Bur **hanarát** ‘(wood) hard, knotty, (meat) tough; self-willed, refractory (~narrow-minded)’ (B 190) (< ***hang-aro-to**).

—[in auslaut] IE ***dhel-** ‘curve, hollow’, ***dholh_aos** ‘valley, vault’ [(OHG **tal** ‘valley’ (< Grmc ***dalam** ‘valley’), ON **dæla** ‘wooden gutter on a ship’, OHG **tol(a)** ‘channel, ditch, pipe’ (M-A 618: < ***dh_lh_ao/eh_a-**)] (not in IA) : Bur **dalá** pl. **dalámuc**, Ys **dalá**, **daláh** ‘larger irrigation channel’ (B 111) (< IE ***dh_lh_ao/eh_a-**).

IE **h₃-** > Bur **h**, IE ***h₃e-** > Bur **ho-**

—IE ***h₃o-** dem. pron., e.g. Lat **hodié** ‘today’ (M-A 594) : Bur **hó** ‘then, just then; so; there, thereafter’ (L 204) (Will 65).

—IE ***h₃elh₁-** ‘smite, destroy’ : Hitt **h₃u-ul-la-a-i** ‘smite, destroy’, **h₃u-ul-la-an-za-iš** ‘battle’, Lat **ab-oleō** ‘destroy’ (M-A 158) : Bur **hol** *h pl* ‘armed forces, troops, army’, **hol ní-** ‘go to war’, **hol jú-** ‘advance armed’, **hólguš** and **hólkuš** ‘battle’ (B 201).

—IE ***h_{x(3?)}ehx-** ‘trust in, believe’, e.g. Lat **ōmen** ‘sign, omen’ (explained as < ‘declaration of truth’ (M-A 61) (GI 706 as ***Ho-**) (Wat 59: **ō** < *(**h₂)oh₃₋**) : Bur **hoóm** ‘sign, secret advice, secret notice’, also **hoóm-t-** ‘to give a sign’ (B 202).

—IE ***h_{2/3}nsis-** ‘large (offensive) knife, dagger’ (M-A 561) : Bur **hunc** pl. **hunzé** ‘arrow’ (for the sem. shift ‘dagger’ > ‘arrow’, cp. Arm **slak** ‘pike, spear, dagger, arrow’).

—IE ***h_{2/3}uerg-** ‘turn’ (M-A 640) : Bur **hurúginas** ‘wave, stream, whirlpool’ (B 207).

IE **h₄** > Bur **h**, IE ***h₄e** > Bur **ha**

—IE ***h₄el-**, ***hel-**, ***hal-** ‘of a light color, white’, esp. AncMcd **áliza** ‘white leprosy of the trees’ or ‘inner bark of tree’ (Katičić 110) (M-A 641) : Bur **halí** ‘birchbark’ (B 188), ‘inner bark of the birch tree’ (Will 63).

—IE ***h₄erós**, ***h₄erios** ‘member of one’s own (ethnic) group, peer, freeman’ (M-A 213) : Bur **haráay** ‘a free and

independent tribe, owing allegiance to no one' (B 192).

—IE ***h₄órǵhei** 'mounts' (in B-K 564: 'climb up; to rise, to become puffed up'), e.g. Hitt **a-ar-ki** 'to mount' : Bur **hurgó**, in Ys: **horgó** 'ascent, slope up; uphill' (B 206).

IE **h_x** > Bur **h**

—IE ***peh_x(i)**- 'misfortune', ***pih_x**- 'revile', e.g. OInd **pāmán**- 'skin disease', **pīyati** 'insults' (M-A 313): Ys **bihái**, Hz Ng **biái** 'illness, disease' (B 50).

—IE ***uih_xrós** 'man, husband' (Wat 101 ***wiæro**) (M-A2 202) : Bur Ys **-yúhar**, Hz Ng **-úyar** pl. **-úyaríso** 'husband, married man' (B 460).

—IE ***h_xond-** / ***h_xnd-** 'stone, rock': Bur **handó** 'stone' (B 189).

—IE ***h_xóngl_o** or ***h_xéngl_o** 'charcoal' (M-A 104) : Bur **hanjíl** 'charcoal' (B 189).

—IE ***h_xóiuo/eh_a**- '+/- fruit, berry' (M-A2 160) : Bur **hói** 'vegetables; greens' (Will 65).

1.4.4. Sonorants

IE **l, m, n, r** > Bur **l, m, n, r** (see examples under other headings).

IE **u** > **-w/-u**

—IE ***ueg^w**- 'wet' (M-A 639) : Bur **du-wáq-**, **d'-waq-** 'to become wet' (B 464).

—IE ***uel-₇** 'to turn, wind; round' (IEW 1441-1444) : (from the zero-grade ***ul_g**-) Bur **du-úl-** 'to wind, (of a ball of thread) to become wound up' (B 454).

—IE ***uora-** < ***uer-** 'faintness, giddiness' (e.g. Eng **weary**) (IEW 1180) : Bur **-wár-** 'to become tired' (pple **n-war**) (B 464-465).

—IE ***uer-₃** 'to turn, bend' and zero-grade IE ***ur_g**- (IEW 1152) : Bur **-wáre** or **-wára** 'around' (B 465) and **du-úr-** 'to turn' (B 457).

—IE ***h₂ues-** 'dwell, pass the night, stay' (M-A 171) : Bur **du-wáas-**, **d'-was-** (L: **d-uesas**) 'remain over; stay behind; to exist, survive' (B 462) (L 140).

—IE ***uer-₂** 'raise, high place, top, high' (IEW 1150), Specht (q in *ibid*) gives here also Gk **uránios** 'in the sky, as high as the sky', also Phrg **uranios** 'celestial' (D-N 140) : Bur **úrunas** 'morning star, Venus' (BYs 184).

—IE ***uel-** 'see' (IEW 1136-1137 : OIr **fili** 'seer', Wels

gweled ‘see’, Toch **yel** (< ***uēl-**) ‘examine, investigate’ : Bur Ys (< ***u-bal-**) **wal-mán-** ‘keep guard over, stand guard, watch (plus dat. of object), **wal** **ː-t-** ‘be under guard’ (BYs 185).

IE **u-** > Bur **b**⁶

—IE ***uer-** ‘high raised spot or other bodily infirmity’, zero-grade form ***ur-** (Wat 99) > Bur **buúri** ‘crest of hill, peak’ and Bur **-úri** and **-úriš** ‘crest, ridge, mountain peak; prong; fingernail’ (B 66) (possibly in **Burúšaski** (< ***burušaski**) ~ ‘highlanders’).

—IE ***ueis-** ‘to sprout, to grow’ (semantics in IE also ‘fruit’, e.g. OPrus **wēisin** ‘fruit’) (IEW 1133) > Bur **basí** ‘a garden with fruit trees; an orchard’ (Will 21).

—IE ***uel**₈- ‘to tear, pull’ (a common sem. development, e.g. in PSl ***ob-velkti** ‘put on clothes’) (IEW 1144-1145) > Bur **bél-** : Ys **wél-** ‘put sth on, don, wear’ (B 47).

—IE ***uer-(e)**₈- ‘perceive, watch out for’ (IEW 1164) : Bur **barén-, baré-** ‘look, look at; look, search for; look after, look about’ (B 40), **ḍ-waran-** ‘require, be in need of’ (B 465).

—IE ***uetero-** or ***uet-ru** or ***ut-ru** ‘wether; one year old lamb’ (Wat 101) : Bur **butár** ‘male kid, under one year old’ (B 65) analysed fully in Čašule (2009a: 171-172).

—IE ***uers-**, IE ***uer-** (?) ‘+/- thresh (grain)’ (IEW 1169): Bur **bar-** ‘thresh; husk’, **ːwar-** ‘make (oxen) extract grain by walking over cut crops’, **baris** ‘threshing’ (B 38-39).

—IE ***uer**₆- ‘to talk, speak’ (IEW 1162) : Bur **bar** ‘saying, speech, word; promise’, **bar ét-** ‘to speak’ (B 38).

IE **u-** > Bur **b-** : **m-**

—IE ***sueks-**, ***seks**, ***kseks** and esp. ***ueks-** (: ***uks-**) ‘six’ (the latter forms are considered to be the original ones, with the **s-** of ‘seven’ taken over (Beeke 1995:213): Bur Ys **bišindu**, Hz Ng **mišindo** *hxy*, Ys **bišinde**, Hz Ng **mišindi** *z* ‘six’ (B 289).

—IE ***ues-** ‘to clothe’ (Wat 101) : Bur **-wási-** ‘put s-thing in or on’, (for *y*-sg objects **bišá-**) ‘put on; wear; don (clothing); fix, attach; fit; suspend, hang’ (Will 121) + **-k(a)**: **bešké**, Hz

⁶It has been suggested cautiously by one of the anonymous reviewers that this process in Burushaski could shed some light on the fate of IE ***b-**, i.e. we could be dealing historically with a change **b** > **w**, rather than **w** > **b** in Burushaski (or of **w** and **b** as positional variants). This is an interesting proposition which requires further investigation.

Ng **bišké** ‘hair (of animals), fur’ and Ys **beskárēt**, etc. ‘wether, ram (over 2 years old, castrated)’ (B 42). Compare with Alb **bashkë** ‘sheep’s wool’, Rum **bască** ‘same’, of substratal Paleobalkan origin (from Thracian) (Brâncuş 1983:40-1), and with an identical etymology). B (296) links the Bur words further with **-múski** ‘pubic hair’.

—IE (Phrg) **kavar** ‘sacred place’, **kavarmoyo** ‘altar’, Lyd **kave** ‘pagan priest’ (Čašule 2004: 78) : (?) Bur **kamariá** ‘Ismaili priest who leads the prayer’ (=U **qhalipá**) (B 350).

—IE ***uoh₁-** ‘you two’ (***ues-**) or more precisely semantically from ***uos**, the enclitic and oblique form of ***juh₁s** ‘y’, (Schmidt 1978: nom. ***yu-H-s**, obl. stem ***wos-**) : Bur **ma**, Ys also **wa** ‘you (pl.)’ (T-M 151).

IE **i** > Bur **y/i**

—IE ***yā-** ‘go, come’, i.e. ***ieh_a-** ‘go, travel’ (M-A 228) : Bur **d¹y(a)-** / **d²y(a)-** (conative of **jú-** which is the present stem) ‘come, come along, approach’ (B 235-236).

—IE ***uih₁rós** ‘man, husband’ (Wat 101 ***wiəro**) (M-A2 202) : Bur Ys **-yúhar**, Hz Ng **-úyar** pl. **-úyarišo** (L 57 also **-uyer**) ‘husband, married man’ (B 460).

—IE ***ieudh-** ‘set in motion, make excited, stir up’ (> ‘incite’) (M-A 507) : Bur **yaṭ** ‘wound, annoyance, pestering, argument’ (B 475).

—IE ***h₁ieu-** ‘young’ (M-A 655) : Hz Ng **-í**, Ys **-yé**, pl. **-yú** also **-yúa** ‘son’, pl. also ‘children’ (B 210) (L 41, 386, also with **-ū-**).

—IE ***el-** or ***iel-** ‘empty, vain’ (e.g. Gk **hálíos** ‘vain, empty, useless’, PSI ***(j)alū-** ‘sterile, infertile, vain’ (ESSJ I: 67-68) : Bur **yálo** ‘without state or dignity’ (B 471).

—IE ***io-** formations, the most important and productive present suffix of late PIE (Fortson 2004:89-90) : Bur present stem involves yodation of the consonants of the past tense stem — with a formative **y** (Morgenstierne (L: I XX).

—IE relational adjectival suffix **-io-**, **-iio** (Fortson 2004:120-121): Bur relational adj. suffix **-yo-** or **-yio-** (Čašule 2009: 45, 59).

1.4.5. Syllabic sonorants

IE **ŋ** > Bur **-un**, **-an**

—IE ***g_ŋ-** in words for ‘beget’, ‘bear’, ‘be born’ (> ‘semen’) (IEW 273) : Bur **g_ŋunó** ‘seed; sperm’ (B 180), to which B

relates also **ḡunón** ‘newly obtained land, in which only grass will be sown’, and the verb **du-ḡún-** ‘ripen; mature’, also **ḍ-squn-** ‘cause to mature (of sun, of people); have an idea, make a suggestion, give a stimulus’ (B 179), also Bur **ḡúni** ‘part, quarter (of room), corner, angle; group, society of people’ (B 161).

—IE ***dn̥ǵhuh_a-** ‘tongue’ (M-A2 175) (IEW 223) : Bur Ys **yúngus** (BYs 187), Hz Ng **-úmus** ‘tongue’ Hay. “**unas**” (according to B for ***u-únius**) (B 455-6).

—IE ***m̥n̥-** (***men-**; ***mon-**) ‘think, remember’ (IEW 726) (> ‘gravestone, mound’ e.g. Phrg **manka** ‘gravestone, memorial’): Bur **man** ‘earth or cement platform in house for sitting and sleeping; dais on which the elite used to sit at public functions; a cement slab or dirt mound placed over grave’ (Willson 85) and from ***men-** > Bur **menas** ‘tale’ (LYs 174) (sem. as in Lett).

—IE ***m̥n̥-**, ***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’, also used in forming periphrastic verbal constructions (B 278)⁷.

—IE ***h_xond-** / ***h_xnd-** ‘stone, rock’: Bur **handó** ‘stone’ (B 189).

IE **m̥** > Bur **-um**, **-am**

—IE ***sem-s** ~ ***sem** ~ ***sm-ih_a-** and esp. zero-grade ***sm̥-** ‘one, united as one, one together’ (Wat 75) : Bur -

⁷Bur **man-** is a very productive verb. Within developments from IE ***men-** ‘remain, stay’ (a widespread and old IE stem), semantically the correspondence is direct with TochAB **māsk-** (< ***m̥n̥-sk̥e/o-**) ‘be, become’, and further Gk **ménō** ‘stand fast, remain; await’, Lat **maneo** ‘remain’, Arm **mnam** ‘remain, expect’ and with other semantic developments OIr **ainmne** ‘duty’, Wels **amynedd** ‘duty’ (note above the Burushaski meaning ‘to be necessary to do s-thing’), also OInd **man-** ‘delay, stand still’ and Hitt **mimma** ‘refuse’, which is a widespread and old stem in IE (M-A 482).

Note here also the earliest Hittite names (XVIII century BC) of the type **Harsumn-uman** ‘of Harsumna’, considered to have the same IE element - in this sense the possessive meaning in Burushaski (‘belong to’) corresponds very well.

The detailed semantic correspondence as well as the periphrastic uses of and suffixed forms with the Burushaski verb argue for a very strong and significant correspondence with IE (see further in 8.2.1).

čhánanum (L 47 **-samanum**) (B 73) Hz Ng ‘first-born (son, daughter, young animal)’ (in Ys **-č-**). Bur also has **sum** ‘(of animals) female’ (L 317) (B 384) and **sumán** ‘(of animals) male’ (B 385), which parallels the sem. development from the above IE stem in Slavic, i.e. from PSI ***samŭ** ‘alone’ we have e.g. Russ **samec** ‘the male animal’, and Russ **samka** ‘the female animal’ (Buck 139-140).

—IE ***dhmbhos-** or ***tmbhos** ‘swelling, mound’ (> Gk **túmbos** ‘barrow, tomb’ of “Pelasgian” origin, also Arm **damban** ‘grave’, Rom **dímb** ‘hill, elevation’ (Georgiev 1981: 100) (Katičić 1976: 71-72): Bur **dambálum** ‘slight ascent, easy ascent’ (B 113).

IE **ǵ** > Bur **al, ul**

—IE ***mǵ-s-** suffixed zero-grade from ***mel-** ‘false, bad, wrong’ (e.g. Gk **blasphēmos** ‘blasphemous’) (Wat 53): Bur **malč-** ‘to abuse, revile, vituperate against’ (B 276).

—IE ***g^wel-**, ***g^wol-** ‘strike, sting; pain; death’ (IEW 470-471) (M-A2 282): From IE ***g^wǵ-** or ***g^wol-**: Bur **ǵulís** ‘long red tick, whose bite causes thirst’ (B 178), (cp. Lith **geluõ** ‘stinger’, Gk **déllithes** ‘wasps’) (M-A2 150), and from ***g^wol-** (OEng **cwellan** ‘kill, destroy’): Bur **-qhól-** **-j-** Hz Ng and **-qhólan-**, L **-qholin-** ‘to pain, to hurt, to ache’, also **-qulan-** ‘jdm. Schmerz bereiten’ (B 357) and (trans.) **qhuíl** ‘-t-hurt’ (NH) (B 360).

— IE ***bhel-** ‘pot’, zero grade ***bhǵ-** (Wat 9) (M-A 444): Bur **i-**stem < the zero-grade: **báli** ‘wine container made of clay; wine measure’ (B 34), L (68) also ‘earthenware pot’.

—IE ***pel(i)s-**, gen. ***pl̥sós** ‘stone’ (M-A 548): Bur **balóos** ‘a kind of stone’ (Will 20) < ***balsós** (**ss** > **ś**).

—IE ***kel-d-** suffixed form of ***kel-** or ***kǵ-** ‘to be prominent, hill’ (e.g. Lat **excellere** ‘to raise up, elevate, to be eminent’ (Wat 39): Bur **khaldár** ‘tall, slender and robust’ (B 251).

—IE ***mel-** ‘dull or brownish black’, e.g. Gk **miltos** ‘red dye; red-brown of plants’, also used to designate ‘blood’ as an euphemism or linguistic taboo, attested in Myc Gk (Tomaschek (1980 II:16 [1893-1894] gives it as a Thracian word), and **militáron** ‘blood’ (Chantraine III: 702), Lat **mulleus** ‘reddish purple’ (IEW 720-721), from a zero-grade ***mǵ-to-**: Bur **multán** ‘blood’ (B 293).

IE **ṛ** > Bur **ar, ur**

—IE ***kert-** ‘plait, twine’ (e.g. Lat **crātis** (< ***kr̥t-i-**) ‘wickerwork, hurdle, honeycomb’, OEng **hyrdel** (< ***krt-i-**) ‘hurdle, frame’) (Wat 41) (M-A2 233) : Bur **kharéti** ‘small wicker basket’ (L also **k-**) (B 252). In Bur either from ***kr̥t-i-** or ***krt-i-**.

—IE ***der-** with the zero-grade ***dr̥-** ‘to sleep’ (M-A2 324) : Bur **dur** ‘sleep’ (B 125).

—IE ***pr̥mo-** ‘earlier, former, first’ (M-A 399) : Bur **púrme** ‘before the time’ (B 318).

—IE ***gher-** ‘to scratch, scrape’ (IEW 441), ***gher-** ‘stroke roughly, rub’ (IEW 439) : > an ext. zero-grade form ***ghr̥(ə)-k-** (Wat 30, 32). In IEW 460, also ***ghrū-** and an ext. stem ***ghrēuġ(h?)-** : Bur **gurgín-**, **-úrgin-** ‘grind on a stone, rub’ and Bur **du-úrgas-** ‘rub’ (B 456) (< ***gurgas-**). And further: Bur **gark** ‘peas’ (B 148) and **gírgir** ‘lentils’ (B 154) (for the reduplicated form, cp. with Gk **keghkros** ‘millet’).

1.4.6. Stops

IE **p** > Bur **ph**, also **p**

—IE ***peth_a-** or ***pat-** ‘stretch, spread’ (> ‘unfurl; open, extended’) (< ***pe-**, ***pa-**), (***peth_a-**, pres ***pe_tneh_ati**) (Wat 67) : Bur **phatán** ‘open’ (L 288), **phatán -t-** ‘open, uncover; remove (a blanket), lift (cap, veil)’, **phat -t-** ‘release, let go, set loose, leave; allow’ (B 326) and **du-phátar-** ‘sit wide and give very little space to the other’ (B 326) also **-pat**, Ng: **-phat** ‘side, flank of body, part under the shoulder’ (B 313) and Ys **pétal** ‘apricot petal’ (BYs 169).

—IE ***pelh₁-** with variant form ***pleh₁-** ‘to fill’ (Wat 64) or ***plh₁-** with derivatives referring to abundance and multitude’ (e.g. Gk **polús** ‘much, many’ (Wat 64): Bur **pháalis**, **pháalisa** ‘a lot of, in abundance’ (B 320).

—IE ***peuōr**, ***pūr** ‘fire’, (gen. sg.) ***pu-n-és** < older ***peHu-** (M-A 201) : Bur **phu** ‘fire’ (B 334), **phu ét-** ‘make a fire’ (B 335), Ys **phurés -t-** ‘cook; slander’ (BYs 171).

—IE ***polo-**, ***polō-** ‘swollen, thick, big’ (> ‘thumb’ (e.g. Lat **pollex** ‘thumb, big toe’) (IEW 840-841) : Bur **phulúte -mis** ‘thumb’ (**-mis** ‘finger’) (BYs 174) (LYs **phalot mis**).

—IE ***(s)p(h)el-t-** ‘to split [break in two], cut off, tear off’ (IEW 985-7) : Bur **-palt-** ‘cause to break’, **-phált-** ‘break, break up, hoe, dig a hole, burst in the air’ (B 322).

—IE ***kerp-** or ***krep-** ‘body, stomach’ (also ‘diaphragm’) (IEW 620) : Bur **-qhúrvat** ‘lungs’ (B 359) (sem. like IE ***h₁eh₁tr-** ‘interior of body’, ‘lung’).

IE **b** (?) > Bur **b**

—IE ***b(h)ō(u)-n-** ‘to swell, to rise’ (< ***b(h)eu**) (IEW 98) (e.g. Gk **bounós** ‘hill, mound, mountain’) : Bur **bun** ‘mountain-, mountain wilderness; rocky; mountain grazing ground; big boulder’ (B 63). From IĒ ***bu-k-**: Lat **bucca** ‘mouth’ (Wat 7) : Bur **buk** ‘throat, front part of neck, neck’ (B 61) and **buk** ‘horn (musical instrument)’ (BYs 135).

—IE ***b^[h]el-** : ***b^[h]ol-** ***b^[h]l-** ‘swell, puff up, inflate, expand, bubble up, overflow’ (B-K 10) : Bur ¹**bul** ‘spring (of water)’ and ²**bul** ‘a mild wind’ (B 62).

—IE (?) ***kab-** in Lat **cabō**, **caballus** ‘gelding, working horse, horse’, OSl **kobyła** ‘mare’, Phrg **kubela** ‘horse’, Gk **kabállēs** ‘working horse’ (Buck 168, considers the words of Anatolian or Balkan origin), also derivatives like PSI ***kobyľuka** ‘pole for carrying loads’ (ESSJ X: 100) : Bur **kabút** ‘white horse’ (T-M 33), esp. Bur **kabulék** ‘roof-posts’ (B 239).

—IE ***baiteh₂-** ‘goatskin, cloak’ (M-A 109-110) : Bur **bať** ‘goatskin, sheepskin’ (B 44).

IE **bh** > Bur **b**

—IE ***bheu-** ‘come into being, be; grow’ (Wat 11-12) : Bur **bá-** / **b-** ‘be, exist, verb copula’ (B 25).

—IE ***bhāgh-** ‘sludge, slime; bog, mire’ (IEW 161). Bur **baǵéin** y pl. (Ng y sg.) ‘cow dung’, Ng also ‘horse manure’ (B 30) (Will 19 also ‘manure’).

—IE ***bhénǵhus-** ‘thick, abundant’ (M-A 3) (Wat 10, zero-grade ***bhǵhu-**) : Bur **bañ**, Ys **bañi** ‘resin, gum (of fruit trees)’ (L 60) (B 35) (Will 20, also ‘manufactured glue’).

—IE ***bher-**, ***bhour-** ‘storm, blow’ (G 157) : Bur **burpúriañ** ‘strong wind’ (in Sh **búrui** ‘strong storm’ ?) (B 64).

—IE ***bheru-**, ***bhreu-**, ***bhrū-** ‘to boil, ferment’ (IEW 143-144) : Bur **bíri** ‘boiling (of liquids and anger), simmering, bringing to the boil, to boil up, to bubble up’ (B 55).

—IE ***bherem⁻¹** ‘to stick out; edge, hem’ and ***bhorm-** : ***bhrem-** (IEW 142), (e.g. OIcl **barmr** ‘edge, seam’) : Bur **búran** ‘seam, hem’, **búran ét-** ‘to stitch, hem’ (Sh **búren** ‘close-sewn hem’) (B 64).

—IE ***bhelg-** < ***bhel-** ‘shine’, (e.g. PSI ***bolgo**, OChSl

blago ‘bonum, bona; benignus, lenis, suavis; beatus’ and esp. SSl **blago** ‘treasure’, borrowed into Rom as **blagă** ‘wealth, treasure’, Av **bərəjayeiti** ‘salute, pay respect’, **bərəg** ‘ritual, custom’ and Skt **bhārgah** ‘light’ (ESSJ II: 173) (IEW 124-125) : Bur Ys **bálkaş** (L: **bilkis**) ‘treasure’ (BYs 132).

IE **bh** > Bur **m** (rare)

—IE ***ghabh-ē-** ‘give or receive’ (M-A 563) : Bur **gámi-** ‘pay, refund, reimburse’ (B 145).

—IE ***dhrebh-** ‘crush, grind’ (IEW 272-273) > AncMcd **drámis** ‘a type of bread’ (N 172), : Bur **dirám** ‘special kind of flour’, **dirám phítí** ‘a type of bread’ (B 120).

—IE ***busk** ‘bush, thicket’, Gk **boské** ‘fodder, pasture’, (Late) Latin **buscus** ‘forest’ (Buck 47) (Wat 14) : Bur **muşk** ‘forest, thicket’ and **muşqú** ‘foliage (for sheep)’ (B 296).

—IE ***dhabh-²** ‘proper, suitable; to fit/put together’ (ON **dafna** ‘competent, good’, **gedæftan** ‘put in order’ (Grmc ***gadafta-** ‘fitting, becoming’) (M-A 139) (IEW 233) : Bur **dámí** ‘excellence, exquisiteness’, **dámíe**, Ng also **dámí** ‘excellent, exquisite’, **dámí -t-** Hz Ng (also in Sh) ‘to approve, choose, select, prefer’ (B 113). (**-sí** < **-cí** loc. ending).

IE **t** > Bur **t**, also **th** (rare)

—IE ***stá-** > ***stə-īā** or ***stə-ē** ‘stay, stand, set up’ (IEW 1010) : Bur **d˙-stay-** ‘prop up, stay; protect from; hold up an enemy, withstand; assist a person; reinforce (troops); fix (a stone in a dry stone wall)’ (B 469), **d˙-sta-** ‘put up and prop up’ (BYs 176).

—IE ***terh₁-** ‘rub, turn; with some derivatives referring to twisting, boring, drilling and piercing; and others (...) to threshing’ (Wat 91) (also ‘hit’) : Bur **tar** ‘hit with open hand’ (B 421) from the variant form of the IE root ***teru-**, ***treu-**, as in Cymr **taraw** ‘hit’ (IEW 1071-1074), also Bur **táris** ‘gap, (big) hole’ (B 422) (‘bored through’). From IE ***ter-es-** ‘threshing’ > Bur **dar** ‘cut crops, threshing floor’ (B 115) (**t** > **d**).

—IE ***treugh-** (e.g. OIr **trōg̃**, **truag** ‘miserable, poor’) (IEW 1071-1074) : Bur **taráq** ‘poor’ (B 421) and Bur **targáato** ‘tasteless meat from a skinny animal’ related by B to **turgót** Hz Ng ‘tasteless, insipid; slack, weak’ (Ys **tergét**, **tirgít**) (B 433).

—IE **ter*⁶- ‘noxious insects’ (related in IEW 1076 to **terh₁-* ‘rub, pierce’) : e.g. Lat. **tarmes** (**termes**) ‘wood worm’ (from an o-stem **t₆rəmo-s*) : Bur **ṭáro** pl. **ṭáromuč** and **tóro**, pl. **tóromuč** ‘cowdung beetle’ (B 445), **túranas** ‘a kind of large black beetle’ (B 433) and the first component in Ys **turmúkuṭes** ‘long insect’ (B 182).

—IE **ter-*, **teru-* ‘feeble, fragile, weak’ (e.g. Lat **tardus** ‘slow, tardy’ (IEW 1070-1071: from **terh₁-* ‘to rub’) : Bur **tarádo** Ng ‘lazy, casual, inefficient, cowardly’ (L also ‘slack, feeble’) (B 421).

—IE **tem-* ‘cut’ (Sl) ‘pound, to beat’, esp. the nasalised form **t(e)m-n-ə-*, e.g. Gk **témnō** ‘I cut’ (Wat 90) : Bur **tan-**, **tái-** ‘pound, crush something, to mash, to hammer’ (B 419).

—IE **teng-* ‘to moisten, to soak’ (M-A 639: “attested sparsely in IE, possibly late IE”) : Bur **tam dél-** ‘bathe, swim, wash o-self’, **tátam** **·t-** ‘to soak, immerse in water’ (B 418).

—IE adj. suffix **-to-** (**-eto-**, **-oto-**) adj. poss. suffix (Fortson 121) : Bur adj. suffix **-to**, **-ṭo**, **-áato** : **mamú-to** ‘sucking, immature’, **bambu-to** ‘thick’ (B I: 19.24).

—IE **treb-* (zero-grade **tr̥b-*) ‘construction of planks, dwelling’ (Wat 93) (IEW 1090) : Bur **tharbái** ‘pile of stones for fencing or walling off or as a monument’ (B 438).

—IE **tenk*²- ‘thrive, flourish’ (> ‘king’) (from ‘thicken, clot, become firm, curdle’ (IEW 1068) (OSax **ḍengel** ‘prince, master’, MLG **dege** ‘thriving, flourishing; progress’, MCymr **brenhin teithiawc** ‘rex legitimus’) : Bur **tham** ‘prince, king’ (B 436-437), **thámkuṣ**, Ys **thánuṣ**, ‘kingship, sovereignty’ (B 435), **tháan** ‘residence of the king, palace’ (DC Ys **tháni**) (B 435), also **thaná** ‘success, good reputation’ (B 437).

—IE **tuer*²-, **tur-* **tuerə-* ‘to grab, enclose’ (IEW 1101) > Lith **tvarkà** ‘Haltung, Fassung, Ordnung’, **tvorà** ‘fence, hedge, borderwall’ < Lith **tvér̃ti** ‘embrace, enclose, fence in’ correlated by Rasmussen (1999: 648-649) with Alb **thark**, **cark** ‘byre for animals’, Rum **ṭarc**, Arom **ṭarku** ‘winter byre for sheep; fence around stack’, a Balkano-Carpathian word believed to originate from one of the ancient Balkan languages (Neroznak 1978: 207) : Bur **tark** ‘byre, hut for animals’ (B 422), perhaps also Bur **tháark** ‘walled enclosure (constructed around a shrine)’ (B 435).

IE **d** > Bur **d**

—IE ***k̑**(o)**nid-** ‘nit, louse egg’ (M-A 357) : Bur **khándas** ‘a tick’ (B 251).

—IE ***der-** with zero-grade ***dr̥-** ‘to sleep’ (M-A2 324): Bur **dur** ‘to sleep’ (B 125).

—IE ***derh₂-**, ***drā-** (Wat 16), with zero-grade ***dr̥h₂-** ‘to work’ : Bur **duró** (L also **daró**) ‘work, affair’, **duroó -é-**, **duróoyas** ‘to work’ (B 126).

—IE ***der-** ‘to run, walk, step’ (also ‘trap, snare’) (Wat 16): Bur **darú** ‘hunting’ (B 116).

—IE ***kel-d-** suffixed form of ***kel-** or ***k̑l-** ‘to be prominent, hill’ (e.g. Lat **excellere** ‘to raise up, elevate, be eminent’ (Wat 39) : Bur **khaldár** ‘tall, slender and robust’ (B 251).

IE **dh-** > Bur **d-**

—IE ***dhroughos** ‘phantom’ (M-A 538) : Bur **dúrgas** ‘ghost of the deceased’ (B 126).

—IE ***dher-** ‘defecate, make dirty’ (IEW 256) : Bur **dart** ‘dirty, impure’ (BYs 141).

—IE ***dherbh-** ‘crush, grind’ (> PS1 ***drobūtū** ‘crumb, small piece’) (IEW 272-273): Bur **darbát** ‘a small piece, a little’ (BYs 141).

—IE ***dhāl-** ‘to sprout, to bloom’ (> ‘flourish, rise, grow’) (IEW 234) : Bur **dal** ‘up’, **dal -t-** ‘take up, send up’ and **daltás** ‘good, fine’, sem. as Hitt **talles** ‘be favourable’ (B 112).

—IE ***dhē-k-** : ***dhō-k-** : ***dhə-k-** ‘do, make, put’, extended form of IE ***dhē-** : (IEW 235): Bur **doók man-** ‘put, set down’, **doók -t-** ‘build, make, place a stone’ (B 121).

IE **-dh-** > Bur **-t-, -ṭ-**

—IE ***dhē-** ‘do, make, set, put’ with a zero-grade form ***dhə-** (IEW 235): Bur **-t-** ‘do; make, build; make happen; put, put on; say’ (B 413).

—IE ***bhe-dho-lo** < ***bhedh-** ‘to prick, dig’ (PS1 ***bodūlū** ‘thistle, thorn’) (G 142) : Bur **batúl** ‘a thorny plant’ (BYs 133).

—IE ***g^weid(h)-** ‘mud’ (IEW 469): Bur **ḡiṭ** ‘mud (wet or dry)’ (B 177).

—IE ***g^weh₂dh-** > ***g^wah₂dh-** > ***g^wadh-** ‘to sink’ (> ‘deep’)

(IEW 465): Bur **ǵáat man-** ‘to submerge, to sink’ (B 164), also Bur **ǵutúm** ‘deep’ (B 183).

—IE ***h₂erd(h)us** ‘high, lofty’ (> ‘rise out, stand out’) (M-A 269) : Bur **hart man-** ‘get up, rise abruptly’, **hart** **:-t-** ‘lift, raise, hold up, stand up’ (B 195).

—IE ***dh(o)ngu-** ‘dark’ (Hitt **dankuis** ‘dark’) (M-A 147) (GI 173: ***d^hŋ-k’-**) : Bur Ys **ṭān** (LYs 230-231), NH: **tuṭān** ‘dark’, Hz Ng **tuṭān**, Ys **tuṭān**, and **tuṭaánkus**, Ng **tuṭánkus** ‘darkness’ (B 448) (maybe also Bur **dan** ‘sleep (n.)’ (B 114).

IE **k** > Bur **k** (with alternation with **kh** and **q**)

—IE ***(s)ker-(s)-** ‘cut apart, cut off’ (M-A 143) : Bur **:-skarc-** ‘cut off, cut down, separate’ (B 141), Ys **kaří**, **khařén** ‘cut up, chop up’ (BYs 158) and 18 derivatives (e.g. Bur **askúr**, **asqúr**, Ys **asqór** ‘blossom, flower; small pox, rash’ (B 22), which can be correlated with the Paleobalkan word **askúron** ‘a type of plant’ (Hesychius), also here Alb **shkurre** ‘bushes, undergrowth’, **shkorre** ‘place overgrown with bushes’ (Neroznak 1978: 180), and further Bur **kharúu** ‘louse’ (B 252) < IE ***kōris** ‘biting insect’ (M-A 312) (Čašule 2010: 23-24).

—IE ***trek-** ‘move, run’ (IEW 1092) : Bur **trak dél-**, Ng **trak(ín) dél-** ‘to skip, to hop’, also **trátrak dél-** (same) (B 430).

(Refer to the previous entries for numerous other examples.)

IE **g** > Bur **ǵ** (also **g**)

—IE ***g(e)u-lo-** ‘glowing coal’ (Wat 27) : Bur **ǵulú-** ‘be burnt up’ (B 178-179).

—IE ***gū-**, ***gouə-** ‘hand; to grab’ (IEW 403-404) : Bur **d--gun-** ‘make people seize, lay hold of’, given by B together with **du-ún-** ‘seize, lay hold of, catch, arrest, grasp, hold on to’ (with the loss of **-g-** after the pronominal prefixes) (B 456).

—IE ***preu-g-** ‘to jump’ (IEW 845) : Bur **prik(ín) dél-** ‘leap, jump, buck’ (L 293, Ng also **prig**) (B 317). In Bur from a zero-grade ***prug-** with alternation **i : u** > **prig**, **prik**.

—IE ***góur-**, (gen. ***gunós**) (IEW 397 ***geuro-s**) ‘body hair, lock of hair’ (M-A 252) : Bur **ǵuyán pl** ‘hair of one’s head’

(B 183) (< *gour-yo- or *gun-yo-).

IE gh > Bur g

—IE *dhrughos ‘phantom’ (M-A 538) : Bur **dúrgas** ‘ghost of the deceased’ (B 126).

—IE *ghabh-ē- ‘give or receive’ (M-A 563) : Bur **gámi** ‘pay, refund’ (B 145).

—IE *suerh_xK- (IEW 1051: *suergh- ‘to take care of’) ‘watch over, be concerned about’ (M-A 636) : Bur **sarké** ‘visible, place from which one can see (watch)’ (B 376)

—IE *gheis- ‘used of the emotion of fear or amazement’ (IEW 427) : Bur **gusú** in -s [‘heart’] **gusú** ‘to be afraid’ (B 162) (**gusú** < *gasú through assimilation).

—IE *augh-, *ugh- ‘nape’ (e.g. Gk **aukhén**, -énos m. ‘back of the neck, neck; strait’) (< *aukh-en-), OInd **usníhā** ‘nape’ (only pl.), (IEW 87) (in M-A2 176: *h_aenġh(w)ēn- ‘neck’, < *h_aenġh- ‘narrow’) : Bur **-qhún** (pl. only) ‘breastbone’, Ng also ‘neck (of humans)’ (B 358). The Bur word could derive from *uqh-un- by assimilation from *uqh-in. The initial u- would have been lost to avoid confusion with the pron. prefix for the 3. p. pl **ú**, **ú-** as in Hz Ng – **úlgis** ‘nest’ : Ys **úlkis** (B 454). Lorimer (LYs 11-12) gives for Yasin also **-úlkis** and states that the -u could be the Ys 3 p. sg. and 3 p. pl. pron. pref. forms. Note also Ys **óštum** ‘waist-cloth, waist-belt’, which has a pron. prefixed form **-štūn** ‘back of waist, loins, small of back’ (B 308). See also **guncé**, **gon**, **ġark-**, **ġusánuš**, **gusú-** (Čašule 2010: 39, 52, 61) (the apheresis occurs mostly before g or ġ).

IE k^w > Bur k

—IE *k^we ‘and’ (e.g. Lat **-que**) (IEW 635) : Bur **ke** ‘also, too, and’, emphasizing particle; enclitic indef. particle after interrogative pronouns; conditional particle (B 244).

—IE interrogative pronoun *k^weh_ali ‘of what sort, of what size’ and esp. the reconstructed IE form *k^woli for OChSl **koli** ‘how much’ (M-A 457) (in PSI *ko li, particle in indef. pron. ‘-ever, whoever, whenever’) : Bur **kúli**, Ng **kúlo** ‘particle used after interrogative pronouns; also ‘always’; after verbs: ‘whenever, if ever’; after adverbs of quantity: ‘a little’, with negation ‘never again’ (B 247) (with **ó** : **ú** alternation).

—IE *k^wyeh₁-, variant metathesised form < *k^weih₁- > *k^wyē- ‘to rest, be quiet’, found in words for ‘time’ in IE:

esp. with an **-n** extension, e.g. ORuss **činŭ** ‘time, period’ (Wat 45) (IEW 638) : Bur **khéen** Ys **khen** (Ys L **khyen**) (B 254), **kēn**, **kyēn** (L 232-233) ‘time, space of time, period, season’, NH also ‘celebration’.

—IE ***yék^wr(t)-** (heteroclitic **-r/-n** stem) ‘liver’ (M-A 356) : Bur Hz Ng **kin**, ‘liver’ (B 245). Morgenstierne (L XXIII) noted a parallel with Skt **yakn** ‘liver’ but dismissed it as a coincidence. See Čašule (2003a: 18-19).

IE **g^w-** > Bur **ǵ**

—IE ***g^wē(u)dh-**, ***g^wō(u)dh-**, ‘dung, dirt; gross, disgusting’ (IEW 483-5), e.g. OSl **gaditi** ‘detestari, vituperare, reprove, condemn’, OSl **gadŭ** ‘Kriechtler, Gewürm’ (G 224): Bur **ǵutó** ‘stinky worm; stinking person’ (B 182), also Bur **d^l-ǵatin-**, **d^l-ǵati-** ‘be filled with wrath against s-one, envy s-one for s-thing, (be)grudge s-body s-thing’ (B 174), Bur **gat** ‘enmity, wrath, malice, hatred’, **gatǵuin** ‘bad, spiteful, hateful’ (B 150).

— IE ***g^wer-**, ***g^wor-** (IEW 477), ***g^werh₃-** (Wat 34) ‘mountain’ (Alb **gur** ‘stone’): Bur Ys **ǵoró**, Hz Ng **ǵuró** ‘stones’ (B 181).

—IE ***g^wer(h₃)-** ‘swallow, eat up, drink’ > (IEW 474-476) : Hz Ng **ǵirít -t-** ‘swallow up, devour’ (B 176).

—IE ***g^wet-us** ‘stomach, intestine; womb’ (in derivatives more generally ‘innards, entrails’) (IEW 481) : Bur Ng **ǵit** ‘anus, vulva; entrails’ and also **ǵitúiti** ‘the part under the armpit; the groove between the thigh and the stomach’, Ng ‘the underside of the knees; the flat soft part under the hip-bone’ (B 176-177).

—IE ***g^wén-i-** ‘woman’ (> Eng **queen**) (Wat 34) : Bur **ǵéniš** ‘queen, Mir’s wife’ (B 175).

IE **g^wh** > Bur **ǵ**

—IE ***g^when-** ‘to strike, smite, kill’ (M-A 548): Bur **-ǵán-** ‘become wounded’, **du-ǵán-**, **d^l-ǵán-** ‘be worn out, exhausted; be finished, come to an end’ (B 168-169), **^l-sqan-**, **-sqai-** ‘kill, slay, murder’, **d^l-sqan-** ‘use up, get worn out’ (B 169). And further Bur **ǵináni** ‘harvest festival; small sheaf of barley’ (B 153) and Bur Hopar **ǵáni**, Hz Ng **ǵáni** ‘axe’ and **ǵantí** (< IE ***g^whntí-s** ‘Schlagen’) ‘europäische Spitzhakke’ (B 146).

—IE ***g^wher-** ‘to heat, warm’, zero-grade ***g^whr₃-** (Wat 34) :

Bur **garú** ‘spring’, Hz Ng **garúmo**, **garúkimo** ‘spring-’, also Ng, Ys **garúm**, Hz **garúrum** ‘hot, warm; friendly’ (as a noun ‘heat’) (B 148-149) and Bur **garí** ‘lamp, light; pupil of eye’ (B 147-148).

—IE ***g^wheia-**, ***g^whī-** ‘sinew, thread’ (IEW 489): Bur **ǵay** ‘thread in a warp’ (B 175).

—IE ***g^(w)hrēi-** : ***g^(w)hrī-** ‘smear, scratch’, e.g. Phrg **gegrimenos** ‘written, inscribed’, Arm **gream** ‘write’, Gk **khriō** ‘I write’ (D-N 1985: 111). Note further Arom **zǵirma**, **zǵrīma**, **sǵrīma** ‘scratch, scrape’ from the Balkan substratum (Illyes 1988: 237) : Bur **girmín-** ‘to write’ (B 155) (for the full discussion, see Čašule 2004: 71-72).

IE **k̂** > Bur **k** (with alternations)

—IE ***suékuros** ‘father-in-law’ (M-A2 215) : Bur **ǵ-skir** ‘father-in-law’ (B 381).

—IE ***k̂(o)nid-** ‘nit, louse egg’ (M-A 357) : Bur **khándas** ‘a tick’ (B 251).

—IE ***kóuh₂r-** ‘hole, opening’ (M-A 96): Bur **kur** ‘small open tank; iron drain’ (B 247).

—IE ***ker-h₂k-** ‘branch’ (M-A 249) : Bur **karkós** ‘young sapling (that is being grafted); stem of flower, just sprouted’ (B 242).

—IE ***kerəuos** ‘horned’, ***ker-**, ***kerh₂(s)** ‘horn’ (M-A2 137) (IEW 574): Bur **karéelo** ‘ram’ (B 242), **krizí** and **krózo** (<***kors-**) ‘sheep and goats’ (BYs 157), **kíro** NH ‘sheep’ (B 245) **káru** ‘ibex’ (BYs 157).

—IE ***keu₂-** ‘to light, to burn’ (IEW 594-595, 597), esp. with a **-k-** formant as in IE ***keuk-** ‘to shine, glow; burn’: Bur **du-úkikin-** ‘(of fire) to become lit’, **d²-kukin-**, **d²-kukun-**, **d²-skukin-**, **d²-skukun-** ‘light up (firewood, cigarette)’ (B 254) (from a zero-grade form).

—IE ***keudh-** ‘to hide’ : In IEW 952: ***(s)keudh-**, also ***(s)keu-t-**; Wat 78: ***(s)keu-** ‘to cover, conceal’; in M-A 134 and 268 we find two stems: ***keudh-** ‘hide’ and ***(s)keu(h_x)-** ‘cover, wrap’ : Bur **du-khat-** / Bur **d²-kaṭ-** ‘to be stopped, closed, impeded; to get caught, get stuck, entangled’, also **d²-skat-** : **d²-skhat-** ‘stop, prevent, hold up, block’ (B 253), which Berger considers related to **du-kháci-** **-ć-** ‘enclose (men, animals)’ and **kháci-** **-ć-** ‘to shut up, enclose animals’ (with **-ty-** > **ć**) and **ǵ-káci-** ‘to keep s-body enclosed’.

IE **ǵ** > Bur **g**, **ǵ**

—IE ***ĝebh-** ‘branch, stick’ (only in Baltic and Germanic) (e.g. OIcl **kafi** ‘a cut off stick’, **kefli** ‘cable; stick; gag’) (IEW 353) : Bur ¹**gabí** pl. **gabenc** ‘reed, tube, hollow stalk’ (B 141), **gabí ten** ‘collarbone’ (BYs 144) and ²**gabí**, pl. **gabímuc** ‘horse’s bit’ (B 141).

—IE ***ĝeP-** ‘+/- eat, masticate (usu. of animals)’ (Wat 26: ***ĝep(h)-** or ***ĝebh-** ‘jaw, mouth’) (IEW 382: ***ĝep(h)-** : Bur **ĝipĝip** ‘-t- (calf, suckling) to suck (milk)’ (B 176).

—IE ***ĝen-**, ***ĝenh₃-**, ***ĝneh₃-** ‘know, be(come) acquainted with, perceive’ (> ‘appear’) (M-A 336-337) : Bur **ĝan-** ‘to appear, seem, be visible’ (B 168) Ys also **-ĝán-** ‘see, view’ and **ĝèn** ‘visible’ (B 20) and the neg. **akhén-** ‘not to know, not to understand’ (B 196).

—IE ***ĝn-** - in words for ‘beget’, ‘bear’, ‘be born’ (> ‘semen’) (IEW 273) : Bur **ĝunó** ‘seed; sperm’ (B 180), to which B relates also **ĝunón** ‘newly obtained land, in which only grass will be sown’, and the verb **du-ĝún-** ‘ripen; mature’, also **d-squn-** ‘cause to mature (of sun, of people); have an idea, make a suggestion, give a stimulus’ (B 179).

—IE ***ĝar-** ‘shout, call’ (IEW 352) : Bur **ĝar-** ‘speak, scold; to sound’ (B 170).

—IE ***ĝerh₂-** ‘grow, age, mature; grain’ : (M-A2 190): Bur **ĝirĝāar man-** and **ĝagár ní-** ‘(of corn, walnuts) ripen in great quantities’ (B 176), also **gur** ‘wheat’ (B 161).

—IE ***ĝonu-** (gen. ***ĝenus**) ‘knee, also angle’ (M-A2 183, note esp. Alb **gju** (< ***gluno-** < ***ĝnu-no**) ‘knee’ (M-A 336) : Bur Ys **-núnus**, Hz Ng **-dúmus** ‘knee, hock’ (B 125), also **-múnĝus** ‘corner’ (B 294). The Bur forms < ***ĝnun-g/kus** < ***ĝnu-no**.

IE **ĝh** > Bur **g, ĝ**

—IE ***ĝh_auos** ‘gaping hole’ and (NE) ***ĝhéh_a(u)-m_r** ‘interior (of mouth)’ (M-A 96): Bur **-ĝumór**, Ys **-ĝomór** ‘hole (small, in strap, etc)’, linked by B with Bur **-ĝúmar** ‘bowels, (the “inside” body); entrails’ (B 179) and **ĝamór** Ng ‘ear-hole’ (Varma 154).

—IE ***ĝhul-** ‘be crooked, bent’ : esp. sem. of OSl **zǔlǔ** ‘evil, malicious’, Gk **phalós** ‘bad, evil’ (G 692) : Bur ¹**ĝul** ‘grudge, enmity’ (L 185) (B 177) (in E-K 98: ‘malice’).

—IE ***ĝhle_xdh-ro-** ‘shiny’ (> ‘smooth’), considered a NW development of the root ***ĝhel-** ‘shine’ (e.g. Eng **glitter**) (M-A 529), and in words denoting color ‘green; greenish

yellow; yellow' : Bur **ġiltír-**, Ng **ġultír-** 'be extravagant in regard to dress and food, do o-self well, show off, make a display' (B 176) and Bur **giltír** 'pod, legume' (B 153).

—IE ***dheigh-** 'work clay, smear; build up; to form' (> 'dough') (M-A2 371) : Bur **daġoán** 'flour', **daġúi** 'unprocessed, raw (not baked)', **daġú** 'glue'. Bur **daġánun** 'thick; large in circumference; robust, stout', **daġanus** 'pig (taboo name)' (B 110) match ON **digr** 'thick' and OIr **digen** 'solid, sturdy' from the same IE stem (IEW 244-245).

—IE ***ġheim-** 'winter' (IEW 426) : Bur **ġamú** 'ice, frost; glacier' (B 168).

—IE ***dnġhuh_a-** 'tongue' (M-A2 175) (IEW 223) : Bur Ys - **yúngus** (BYs 187), Hz Ng **-úmus** 'tongue' Hay. "**unas**" (according to B for ***u-únus**) (B 455-6).

—IE ***dhereġh-** (***dhrġh-nā-**) 'to wind, turn; spin' (IEW 258) : Bur **d-rgin-** (L 127: **dērginas**) 'to spin', Ys **dórgin-**, Hz Ng **d-ú-rgin-** (L 146: **dūrginas**) 'swarm round, hang about, surround; scuffle' (B 364).

—IE ***bhēġh-** : ***bhōġh-** 'to quarrel, dispute' (Rix 68: ***b^heh,ġ-**) (e.g. MIr **bāgach** 'warlike', Russ **bazgala** 'evil-doing', TochB **pakwäre** 'wicked', OIcl **bāgr** 'difficult, morose, awkward') (IEW 115) : Bur **baġárk** 'evil, evil-doing, quarrelsome' (B 30) (Wil 19: 1. 'bad-tempered; fierce, violent; evil; wicked; naughty, mischievous; disobedient, immoral; unchaste' 2. 'naughty person, brat'), **baġárkkus** 'evil, bad, damage'.

—IE ***ġhor(ie/o)** 'desire' (M-A 158) (Wat 30: ***ġher-** 'like, want', and suffixed zero-grade form ***ġhr-ġo**) (IEW 440) : Bur **gurú-** in **-s** 'heart' + **gurú-** 'to love, be fond of s-one, like; look after s-one' (B 161-162) possibly from ***ġhr-ġo** > ***guro** and by assimilation **gurú-**, (or alternation **o : u**).

1.4.7. Voicing of voiceless stops in the anlaut (rare)

IE **p** > Bur **b**

—IE ***pal-** 'to burn' (e.g. PSI ***paliti**, ***polēti** 'to kindle, to light', also IE ***(s)pel-** : OInd **sphulingah** 'spark', Arm **p'ail** 'shine, flash' (IEW 805) : Bur **bal-**, (in Will 19: **baláas**) '1. burn; for a fire to start; 2. for a gun to explode; 3. to light, to shine' (tran. **éspalas**).

—IE ***ped-**, ***pod-** (nom. root) 'foot' (Wat 62) : Bur **badá** 'sole of foot; step, pace' (B 29) (? < OInd **padá** 'footstep,

track, pace') yet a newer form in Ys **bayá** 'same' < (?) Pkt **paya-** 'footstep, foot').

—IE ***ped-**, ***pod-** (verbal root) 'fall, stumble' (Wat 62): Ys **badán -wál-** 'fall down on one's back, fall over' (BYs 131). Even in such examples we find the alternation **p : b** as Bur also has **padáay** **̑-t-** 'kick a stone with foot' (linked by B with ? with **badá**) (B 310).

—IE ***pelh₂-** 'bear young' (found in West Central IE): Alb **pjell** 'give birth to, produce', **pelë** 'mare', Gk **pólos** 'foal', Arm **ul** 'kid, young of deer', Eng **foal** (M-A2 192) : Bur **bélis** (L also **bēlis**), Ys **béles** 'ewe (which has had young)' (B 48), and second component in **súmpal** etc. 'young female kid or lamb' (for details see Čašule 2009: 157-161).

—IE ***peh_x(i)** 'misfortune', ***pih_x-** 'revile' e.g. OInd **pāmán-** 'skin disease', **pīyati** 'insults' (M-A 313): Ys **bihái**, Hz Ng **biái** 'illness, disease' (B 50).

IE **p** > Bur **b : m**

—IE ***perk-** 'dig out, tear out' (M-A2 139) : Bur Hz Ng **biráq-** 'dig, dig anywhere', part. **nipíraq**, Ys **braq ét-** and **biráq ét-** 'to hoe; to belch' (B 42) and with **b > m** : Ys **dimíraq-** 'become dug out' (Tiffou, q. in Berger 2008: 3.21).

IE **t** > Bur **d-**

—IE ***(s)teg-** 'cover, hide' (with a possible Sanskrit cognate in **sthagayati** 'covers, hides' found only in one source, the Dhatupatha (T 13737) (with no clear continuants in IA) and considered a loanword into Indic by some etymologists (M-A 134, who state that the spread of this stem is in western and central Indo-European) (IEW 1013-1014) : Bur **daǵá-** **-ć-** 'hide, conceal oneself, take refuge', part. **nutagá(n)**, and **̑-staqa-** Ng **̑-staǵa-** 'hide, conceal' (B 109).

—IE ***terh₁-** 'rub, turn' (> 'thresh') (Wat 91) : Bur **dař** 'crops that have been cut, threshing floor' (L 114), **dárći gíy-** Ng 'thresh' (B 115).

—IE ***(s)tāi-no-** 'stone' (IEW 1010) : Bur **dan** 'stone' (B 113).

—IE ***telh₂-** or ***t̥h₂-** 'lift, raise' (< 'carry, bear, uphold') (M-A2 406): Bur **dal** **̑-t-** 'drag along, haul', **dildál -yán-** 'carry' (B 110-111).

—IE ***stel⁻²**, ***stelh_x-** 'spread out flatly, broaden', (e.g. OChSl **steljo** 'spread (out)' (M-A 247: ***(s)telh_x-** 'flat'), ***stlā-to-** 'wide' (1018-1019) : Bur ⁴**tal man-** 'stagnant, slow

flowing', **tátal man-** '(of oil, water) to spread around' (B 416), which B (417) correlates with Bur **taláso** 'shallow (of water), flat (of a container, bowl)', **tálkiş** Ng 'shallow (well), slow flowing (river)'. And further: Bur **dáldalum** 'wide, width' (B 111) as a reduplicated stem, or from IE ***(s)tlā-to-** 'wide' > ***tal-to-lo** > ***dal-to-lo** > **dáldalum** (cp. with Arm **lain** 'wide', Lat **lātus** (***stlā-to-**) 'broad').

IE **k-, k̑** > Bur **g-**

—IE ***k̑ers-** 'run' (M-A 491) : Bur **gáar-** (part. **nukáarc̑(in)**) Hz Ng 'run, gallop; run away, run off; come running, run after; rush upon, charge; flow, pour down' and **:-skarç-** 'make gallop, make s.o. flee; make pour down; settle a quarrel' (B 141).

—IE ***korm-** 'broth, mash' (M-A 84) : Bur **garmá** 'a (thin) bread, cooked with vegetables' (B 148).

—IE ***(s)koli-** 'young dog' (M-A 168) : Bur **gaálgo**, Ng also **gaáljo**, L also **kaaljo** sg and pl, Leitner has **gal** sg and **gáljo** pl 'species of wild black dog', Ys **galjó** 'jackal' (B 140).

1.4.8. Continuant

IE **s** > Bur **s** or **s : ç : çh**

—IE **-s-** mobile in verbs (Fortson 70) : Bur **-s-** verbal prefix: e.g. IE ***(s)ker-** 'turn, bend' : Bur **d̑-karan-**, **d̑-skaran-** 'surround, gather around, enclose' (B 242).

—IE ***suel-**, ***sul-** 'to wet, moisten; flow; (noun) liquid, fluid, moisture, sap', ***seu-**, ***seuə-**, ***sū-** 'juice' (IEW 912-913) (Mann 1334-1335) : Bur **çhil**, Ys: **çel** 'water; juice, sap' (B 76) and **d̑-sil-**, **d̑-sili**, (NH also **d̑-çhil-**) 'make wet, water intensively', **du-súlgu-** 'become fluid, watery', **d̑-çhulgu-**, **d̑-çhilgu-** 'make watery' (B 384) (B 77).

—IE ***sē(i)-**, ***si-** 'to tie, bind' (Buck 546) : Bur **d̑-çi-**, Ng **d̑-çhi-** 'to tie, tighten' (B 76).

—IE ***sem-s** ~ ***sem** ~ ***sm-ih_a-** and esp. zero-grade ***sm̑** 'one, united as one, one together' (Wat 75) : Bur **-çhāmanum** (L 47 **-samanum**) (B 73) Hz Ng 'first-born (son, daughter, young animal)' (in Ys **-ç-**).

—IE ***sor-gh-** or ***sȓ-gh-** 'to wound, tear' < IE ***ser-**, ***sor-**, ***sȓ-** 'split, rip apart, tear': (Mann 1249) : Bur **-sárk-** 'strike one thing on another, bring down (sword, axe, stroke) on, smite with', **çarák isárk-** '(of animals) to hit out with hind legs' (B 375-376) and Bur **çar -t-** 'to tear, to tear off, split,

cut open' (B 69).

—IE ***suékuros** 'father-in-law' (M-A2 215) : Bur **śskir** 'father-in-law' (B 381).

IE **ks** > Bur **ś**

—IE ***kes-** 'to comb, scratch, itch' (e.g. Gk **ksainō** 'scrape, comb [hair or wool], full [cloth]', or flax, as in OEng **heordan** [pl] 'hards [of flax], tow' (M-A2 233) : Bur **śe** 'wool' (B 393), from an ext. zero-grade: **ks-** + **-e(s)-** as in Gk **ksásma** 'crumpled wool' (< ***ks-en**). Also Ys **hesk**, Hz Ng **hisk** 'comb, loom, wrist' (B 200), from the **e**-grade. There a few examples in Bur where **h** < **k** (Morgenstierne 1945: 74).

—IE ***meug-** 'slimy, slippery' (***muk-so-** > Gk **muxa** 'mucus', also Lat **mūcus** 'mucus' (Wat 55-56) : Bur **-mús** 'snot, nasal mucus', Ys also 'nose' (B 296) (LYs 178).

—IE ***ksēro-** < ***kseh₁-ro-** 'dry; bright (of weather)' (e.g. Gk **xēros** 'dry', Lat **serēnus** 'serene, bright, clear, dry (of sky or weather)' (IEW 625) (possibly from IE ***ksē-** < ***kseh₁e-** 'burn, singe') (M-A 170) : Bur **śiráu** '(of sky) completely clear, cloudless' (BYs 178).

—IE *(**s**)**ker-g-** < *(**s**)**ker-** echoic root ~ 'sound' (incl. 'to clink, tinkle') (IEW 567-571), esp. Thrac **skarkē** 'coin', correlated with Lett **skards** 'iron, tin (plate), sheet metal' (Neroznak 1978: 54-55) : (with **sk** > **ks** > (expressive) **ś**) Bur Ys **iskárk**, Hz Ng **śikárk** '1. brass, copper; 2. yellow, pale' (Will 108) (B 407).

—IE *(**s**)**tég-es, *tég-es-os** 'roof' (e.g. OIr **tech** 'house', Gk **tégos** 'roof', OPruss **stogis** 'roof', Lat **tēctum** 'roof', OHG **dah** 'roof' < *(**s**)**tég-** 'to cover' (IEW 1013-1014), as in Bur **daǵá-** **-ć** 'to hide, conceal oneself, take refuge', part. **nutaǵá(n), -staga-** 'hide, conceal' > Bur **tési** 'roof (external aspect)' (B 425) (**gs** > **ks** > **ś**).

2. Correlation of the Burushaski personal pronouns with Indo-European

Correspondences in personal pronouns between two languages are often considered strong evidence for a possible genetic relationship, and they are rarely borrowed as a whole system. In this respect, it is very important that the Burushaski personal pronouns can be correlated directly with Indo-European.

The third person pronouns are the same as the

demonstratives and are given in Section 4. All Burushaski pronominal forms are cited from Berger (1998: I, 6.5).

The literature on the reconstruction of the Indo-European personal pronouns is vast and there is still disagreement on a number of points, even on the number of separate case forms to be reconstructed. Our sources for Indo-European are Katz (1998), Sihler (1995), Schmidt (1978) and Szemerényi (1996) and the more popular Beekes (1995) and Fortson (2004) as well as the convenient attempt at a unified synthesis in Mallory-Adams (1998), also Meier-Brügger (2003). Note also the clear critical overview in Kapović (2006). It is beyond the scope of this paper to engage in a discussion of the divergent points or present for every pronominal form all variant analyses.

One very significant difference between Indo-European and Burushaski in the personal pronouns that needs to be pointed out at the outset is that while in Indo-European the first and second person pronouns have independent forms for the nominative and non-nominative cases, in Burushaski there is only one form (with the exception of the 2 p. sg. pron.) based on the absolutive case from which the other oblique cases are formed. The oblique case forms, as they are common to both Burushaski personal and demonstrative pronouns are discussed in Section 3.

We summarize the close correspondence between the Burushaski personal pronouns and Indo-European in the following table:

	PERSONAL PRONOUNS
<u>Indo-European</u>	<u>Burushaski</u>
	<i>1. person singular</i>
* (h₁)eǵoh₂-	ja (< * ya < * iga) pron. prefix á- etc.
* me-	mi (limited. poss.)
	<i>2. person singular</i>
* tuh_xom + ǵhō-	un, uñ, um ‘you’, also uñgo ‘you here’
* ǵhō- dem. base	-go- and pron prefix gó- etc. thum < * tun+g or * tum+g ‘other, another’

	<i>1. person plural</i>
*wei-	mi
*mes-	pron. prefix mí-, mé-, mée- etc.
	<i>2. person plural</i>
*uoh ₁ - or *uos-	ma- also (limited) wa- pron. prefix má- etc.

PERSONAL REFLEXIVE PRONOUNS

*séue (acc.) (enclitic *se)	[only lexical] -s-
*s(u)u-o- and *sū-	su-
*sue-liion	salén, silajín
*k ^w úr-, *k ^w or-	-khár, Ng -kháre
*i/e-	-i

Table 3. The system of correspondences between the Indo-European and Burushaski personal pronouns.

2.1. First person singular

Bur Hz Ng **je**, Ys **ja** (gen.-erg. : **jáa**; dat. **jáar**; abl. **jáacum** — for the oblique forms see Section 3). Berger (2008: 48, 68) states that the Hz Ng **je** is secondary, as a result of palatalisation, and that **ja** is the oldest form (found in the oblique cases in Hz Ng).

It can be correlated with IE ***h₁eĝ-** (emphatic: ***h₁eĝóm**) 'I' (M-A 454) (Beekes 1995: 207) reconstructs a laryngeal, whereas almost all other analyses point to a nominative ***eĝ-oh₂-** (Meier-Brügger 2003: 225).

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

The Burushaski pronoun under this proposal could be explained from IE *(**h₁)eĝoh₂-** : [(**h₁)e-** > **i-** : **e-**; **-ĝ-** > **g**; **oh₂** > **a**] > ***ig-a** > ***yga** > ***ya** > **ja-**, perhaps influenced by the languages mentioned above. Refer further to the alternation **j** : **y** in Ys **jaĝá**, Hz Ng **-yaĝá** (B 470), Hz Ng **jóċis**

: Ys **yótes** (B 228), **ǵajámiso** : **ǵayámiso** (B 166), **j** - : **d²y(a)** ‘to come’ (of Indo-European origin), or Bur **yaqhu** < Turk **jakki** (B 472), which illustrates a possible 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-**.⁸

Another less likely possibility would be to take into account the alternation **g** : **j** — note Bur **gaálgo** Ng, also **gaáljo** (L also **kaaljo**) sg and pl ‘species of wild black dog’ (B 140), also our derivation of Bur **hanjíl** ‘charcoal’ (B 189) from IE ***h_xóngl** or ***h_xéngl** ‘charcoal’ (M-A 104) (with the common **i** : **u** alternation before **r/l**). This could mean that Bur **ja** may derive from ***ga-** : ***ǵa-** < ***ega-** < ***egoh₂-**, but would leave the aphaeresis of **e-** unexplained, even though as noted by Kapović (2006: 144), aphaeresis is typologically common in pronouns.

Lorimer, interestingly, notes Bur **mi** ‘my’, “only occasionally used, with titles of relations”, e.g. **mi mama** ‘my mother’, **mi baba** ‘my father’ (L 265, not recorded by Berger), which could be a continuant or relic of the IE 1. p. pronominal clitic ***me-** (in Bur < ***mē-**): e.g. Gk **moi**, Ved **me**, Hitt **-mu**, Old Lith **-m(i)**, or rather the Indo-European stem ***me-** for the oblique cases (IEW 702) (Fortson 2004: 127-128) or more specifically from the derived IE possessive adjective ***me-yo-** (Wat 51). It could be, nevertheless, of local, Indo-Aryan provenience.

2.2. Second person singular

Bur **un**, **un̄**, **um** ‘you (sg.)’ also **un̄go** (Murtezabad and Ganesh subdialect) ‘you here’ (gen.erg. **úne**, dat. **únar**, abl.

⁸Note in this respect the exact parallel with Slavic, i.e. OChSl **azŭ** : PSlav ***ja(zŭ)** ‘I’ (in all Slavic languages, except Bulgarian and Old Church Slavonic, with **j-**: e.g. Croatian, Serbian, Polish, Russian, Ukrainian, Byelorussian, Czech, Slovak, Lusatian, all: **ja** ‘I’, Mcd **jas**, Slovene **jaz**, but Bulgarian **az** ‘I’ (Kapović 2009: 53). The direct parallel between Slavic **ja** and Bur **ja**, as well as in the 1.p.pl. between Slavic **my** / **mi** ‘we’ and Burushaski **mi** ‘we’ is remarkable even if the derivational histories may be somewhat different.

úncum) (B 456).

The status of this pronoun in regard to Indo-European is complex and tenuous, and requires extensive argumentation and further analysis.

It can be correlated with IE ***tuh_xom** (emphatic form of ***tuh_x** ‘you sg.’ (M-A 455) (Schmidt 1978: ***tu-H-om**) i.e. ***tum-** + **-g** by analogy with the 1 p. sg. (prior to the change **g > y > j**, see above) (as in Hitt ***teg**, Acc. ***tug-** or in Gothic and Venetic —Szemerényi 1996:213). Sihler (1995) reconstructs ***ti/ī** (**tu/ū**).

We can assume a change **t > d**, taking into account the change/alternation **t- > d-** and **ṭ- > ḍ-** in Burushaski (Čašule 2010: 9 and Berger 2008: 3.11). Note: Bur **dağá- -ć-** ‘hide, conceal o-neself, take refuge’, part. **nutağá(n)**, and **:-staqa-** Ng and **:-stağa-** ‘hide, conceal (living beings); close (the eyes)’ and **nutağán** ‘concealing o-self; secretly, stealthily’ (B 109) [< IE ***(s)teg-** ‘cover, hide’ (IEW1013-1014)] and note further e.g. **dasmilá : tasmilá** (B 116); **dram : tram** (B 122-123); **dutúr : tutúr** (B 127); **daltánas : taltánas** (B 112); **dáalumuc : táalumuc** (B 108); **datágar : tatágar** (B 116) (L 119); **ḍután** (NH) : **ṭután** (B 449) (L (both) 150, 361); **daltás** (B 112) : **taltás** (Biddulph) ‘beautiful’ (B 112); Bur **dáo** ‘griddle’, Sh **taáo** (T 5768); Bur **del** ‘oil’ (Sh **téel** — T 5958), etc. — with the direction of change sometimes unclear as e.g. in Bur **tasmuzá** ‘glove’ < Pers **dast mūzah** (Berger 2008: 23) which reflects a **d > t** change - see the discussion in Berger (2008: 3.11-3.12).

After the change **t- > d-**, there would have been a subsequent loss of **d-** in the anlaut, replaced by a prothetic **h-** or **y-**, for which there are other instances as well, e.g. **dudeéni** vs **yudeéni** (B 124); Ys **dúlas**, but also **helés**, Hz Ng **hilés** (B 198) ‘boy, lad, youth (unmarried); child, infant’ (cp. with Lett **dēls** ‘son’, Alb **djalē** ‘boy, young man, son’ < OAlb ***delās** ‘a boy’), Lat **filius** ‘son’ (Wat 18), ultimately < IE ***dhh₁ileh_a-** ‘teat, breast’, ***dheh₁lus** ‘nourishing, suckling’ (a northwestern and late IE word for ‘teat, breast’, also Ys **-díl** (BYs 142), Hz Ng **-ndíl** ‘breast, chest’ (B 302); Bur Ys **-yúngus** ‘tongue’ (BYs 187) < IE ***dn̥ghuh_a-** ‘tongue’; under a very tentative interpretation, the first component ***wa-** in Bur **wálto** ‘four’ (2X2), perhaps from IE ***d̥woi-** ‘two’ (M-A 400) (for other possibilities see Čašule

2009b or 8.1.4.); also **akhíl vs dakhíl, dakhí** ‘such as this, like this, of this kind’ (B 14); perhaps **del** ‘oil, fat’ (B 118) : **halél** ‘fat, oily’ (B 187).⁹ The **d-** may have been retained in the Bur interjection **do** ‘hey you (to a woman)’ (BYs 141).

It is very significant that Burushaski has the adjective **thum** (< ***tung** or ***tumg**, for **ng, nk** > **m** (Berger 2008: 4.4) ‘other, another’ (B 442) which is derived from **thi** ‘other; -else; other than, apart from’ (B 439) which could be related to the 2. p. sg. pronoun in the sense ‘you’ = ‘the other of us (two)’. Note the direct correspondence of Bur ***thu-** : **thi** with Sihler’s (1995) reconstruction ***ti**/ī (**tu**/ū). (For the alternation **t** : **th** see Čašule (2009c:10) with over 40 such instances.) This explanation would make it unnecessary to invoke IE ***tuh_xom-**, as **-um** is a Burushaski adjectival ending < **-ung** < IE ***-enko-**, ***-ŋko-** compound adjectival suffix (Wat 36).

The Burushaski pronominal prefix for 2. p. sg. is **gu-** / **gú-**, **-kú-** ; **gó-**, **-kó** ; **goó-** / **koó-** (for the categorisation of the different forms, see B I: 6.34), which suggests strongly that it is the same element as the second component in the basic form of the personal pronoun.

Another possibility for interpretation of the second component could be from the IE pron. particle ***ǵhō-** (G 692) (see the discussion in Section 4.2). The Murtezaabad and Ganesh form **uŋgo** ‘you here’ (where **-go-** adds the meaning of ‘here’) is strong evidence for this explanation.

Note separately the tenuous and semantically more difficult possibility of correlation with Grmc ***ink^wis-** ‘you two’: Goth **iqkis** ‘you two’, OEng **git** ‘ye two’, **inc** — **incit** ‘you two’, ON **ykkir** ‘you two’ (M-A 455) (Howe 1996).

2.3. First person plural

Bur **mi** ‘we’ (gen.-erg **mú**; dat. (reduplicated) **mímar**,

⁹Consider the possibility that Bur **-ú-** ‘to give’ (B 453) may derive from IE ***dō-**, ***dō-u-**, ***du-** (IEW 223), in M-A2 (270): IE ***deh₃-** ‘to give’. Indicative in this respect is the irregular form of the 1. p. sg. prefix which for this verb is **joó-** (B I: 25-26) ‘to me + give’ which could reflect the old form, with **eh₃ > oo** i.e. **ō** (or we could have an alternation **o** : **u**). The **d-** in this verb could have been lost because of semantic conflict with the Bur prefix **d-** which denotes action directed towards the speaker (“the pronominal prefix with **-ú-** refers to the indirect object, the person or thing to whom something is given” (L 57).

abl. **múicum**) 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: ***wei** and ***ns-me-s**; GI 254: IE ***mes-** alongside with ***wey-**, - also in Schmidt (1978), with ***wey** considered younger; Beekes (1995: 208), gives for the nominative only ***uei**). In Katz (1998), 1. p. pl. ***uéy(e)s**, ***mes**. Very pertinent is the discussion by Kapović (2006:154-155) who carefully weighs the evidence for considering the Balto-Slavic and Armenian forms, unique within Indo-European, either as an archaism, which is the dominant view he reluctantly seems to accept, or as an innovation from the older widely attested IE ***wey-(e)** with **m-** developing by analogy with the oblique singular stem or under the influence of ***-m** in the 1 p. pl. verbal endings. This is a rather vexed question which cannot be adjudicated here.

In Burushaski we could have had **w > b > m** as manifested in the following examples: —IE ***sueks-**, ***seks**, ***kseks** and esp. ***ueks-** (: ***uks-**) 'six' (the latter forms are considered to be the original ones, with the **s-** of 'seven' taken over (Beekes 1995: 213): Bur Ys **bišindu**, Hz Ng **mišindo** *hxy*, Ys **bišinde**, Hz Ng **mišindi** *z* 'six' (B 289). —IE ***ues-** 'to clothe' (Wat 101): Bur **-wási-** 'put s-thing in or on', (for *y*-sg objects **bišá-**) 'put on; wear; don (clothing); fix, attach; fit; suspend, hang' (Will 121) + **-k(a)**: **bešké**, Hz Ng **bišké** 'hair (of animals), fur' and Ys **beskáret**, etc. 'wether, ram (over 2 years old, castrated)' (B 42). Compare with Alb **bashkë** 'sheep's wool', Rom **bască** 'same', of substratal Paleobalkan origin (from Thracian) (Brâncuș 1983: 40-1), and with an identical etymology). Berger (B 296) links the Burushaski words further with **-múški** 'pubic hair' (refer to 1.4.6).

This would indicate a derivation from ***uéy(e)s > *beye-s > *bē > mi, mée-** or ***uéy(e)s > *baes [ey > a] > *bee-s > *bi > mi, mée-** which would then suggest a common Balto-Slavic, Armenian and Burushaski development.

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.

2.4. Second person plural

Bur **ma**, Ys also **wa** (only in T-M 151) which is most probably the older form (gen.-erg. **máa**; dat. (reduplicated) **mámar**; abl. **mámacum**) and the pronominal prefix **ma-** / **má-** / **máa-** can be correlated with IE ***uoh₁-** ‘you two’ (***ues-**) or more precisely semantically from ***uos**, the enclitic and oblique form of ***iuh₂s** ‘ye’, (Schmidt 1978: nom. ***yu-H-s**, obl. stem ***wos-**) (Meier-Brügger 2002: nom. ***yú-H-s**, dat. **us-mé-i**, 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 via an intermediate form ***ba-**). In Bur **wo** > **wa**, i.e. 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). For the change **w** > **b** : **m**, see 2.3.

For the discussion of the Indo-European origin of the case endings of the personal and the demonstrative pronouns, see Section 3.

2.5. The personal reflexive pronouns

The Indo-European reflexive pronoun has been reconstructed as ***séue** (acc.) (enclitic ***se**) (IEW 882) (Wat 87-88: ***s(w)e-**) meaning ‘(one)self’ (Fortson 2004: 130) (M-A 455: ***séue** (acc.) ‘-self’) or ***s(u)u-o-** ‘one’s own’ (“widespread and old in IE”), e.g. Av **hva-** ~ **hava-** ‘one’s own’, OInd **svá** ‘one’s own’, TochA **śñ̄ yī** ‘one’s own’, Lat **sē** ‘him-/her-/itself’, (poss. adj **suus**), OChSl **se** ‘-self’, OPruss **sien** ‘self’, Lett **sevi-** ‘-self’, OHG **sih**, Goth **sik** ‘him-/her-/itself’ etc. and ***sū-** ‘joint family’¹⁰.

While it has not been preserved as a reflexive pronoun in Burushaski it is very productive in various lexical items.

¹⁰ “It has been considered on the basis of the Latin and Vedic text that the original meaning was not ‘one’s own’, but rather ‘all pertaining to the (joint) extended, communal family.’” (M-A 412)

There is for example the first element in Bur **sukúin** ‘kinsman, blood-relation (descended from a common ancestor); near relation, such as cousin’ (B 384) (-**kuin** is the denominal suffix for derivation of names of professions (B I:19.13, and **su-** < IE ***s(u)u-o** or ***sū-**).

Consider also the first component **s-** in Bur **:- skir**, pl. **:- skindaro**, Ng pl. **:- skirišo** ‘father-in-law, wife’s father or wife’s father’s brother or husband’s father’ (B 381) which we derive from IE ***suékuros** ‘father-in-law’ (M-A2 215, who cite Szemerényi’s suggestion of a deeper etymology from IE ***sué-** ‘own’ + ***koru-** ‘head’), also **gus** ‘woman’, **:-skus** ‘mother-in-law’ (B 381).

Furthermore, we have Bur Ys **salén** also **selén** ‘husband’s sisters and daughters’ (BYs 175) correlated tentatively by B (378) to **silajín** ‘female relation’, related women-folk’ (L 314). Consider also **-sildir** ‘Väter eines Ehepaars auf einander bezogen’ (the second component derived by Berger (2008:3.31) with an inorganic **-d-** < **hir** ‘man’ and **-sílguš** ‘Mütter eines Ehepaars auf einander bezogen’, with **gus** ‘woman’ as the second component (B 379). There is a direct correspondence of these words with developments from IE reflex. ***sue-lo-**, ***sue-lijon** ‘Schwäger, die Schwestern zu Frauen haben’, as in ON **svilar** ‘husbands of two sisters’, Gk **aélioio** ‘brothers-in-law whose wives are sisters’ (IEW 1046) (M-A 85 “word of north-west and centre of IE world”). The Burushaski vocalism in these derivations suggests origin both from ***se-** (in **salén**) or ***sē-** (< **seue** (M-A2 417) (in **silajín** (< ***salijin** < ***saliijn** < ***sue-lijon**) and **-sildir** and **-sílguš**).

The Burushaski basic personal reflexive pronoun is Hz Ys **-khár**, Ng **-kháre** (B I: 6.6) (B 252) (L 228). We suggest tentatively a correlation with IE ***k^wúr-** ‘where’, esp. e.g. Lith **kuĩ** ‘where’ and importantly Lith **kuris** ‘that one, who’ (interrogative and relative), and from ***k^wu-** also Alb **kush** ‘who’, OCS **kũto** ‘that one, who’, etc. or IE ***k^wor-** ‘where’, e.g. ON **hvar** ‘where’, **hverr** ‘who’, etc. (M-A 456). In Burushaski it is used with the pronominal prefixes, e.g. **akhár** : **a-** pron. prefix 1. p. sg ‘my’ + **-khár** ‘-self’ = ‘myself’. The semantic link with the Indo-European interrogative/relative pronoun would be in an emphasising sense of “me” + “the one”. The stem-vowel **-a-** instead of the expected **-u-**

can be correlated with the reflexes of the IE syllabic sonorant *r* which are **ar** : **ur** in Burushaski.

Burushaski also uses the form **-í** ‘self’, which is added to the absolutive case of the personal pronouns, e.g. **jéi** ‘myself, etc. also used as an emphasising particle (B 210) and defined by Willson (67): ‘1. right there; 2. completely; 3. alone, only; separately (as in ‘you alone’); 4. very (as in ‘at that very time’); 5. same, exactly; really; just even’. It could be correlated with the Bur **i- / í- / é- / ée-** pronominal prefix for 3 pers. sg. *hmxy* (see 4.1.) with a semantic development as in **akhár**, i.e. **jéi** ‘myself’ : ‘me, the one’. We would have the extension of an originally demonstrative pronoun to anaphoric and reflexive use.

3. Oblique case forms

The Burushaski personal and demonstrative pronouns have the same case endings as the nouns. These are added to the absolutive case form, and are the same for the singular and plural forms of the demonstrative pronouns, in what is a major typological difference in regard to Indo-European.

We list in an abbreviated form these endings used both in the singular and the plural, with their possible Indo-European derivation:

Bur gen. and erg. (except for *hf* sg) **-e** (B I:63) < IE gen. sg. **-(o)s**, also **-es** (Beekes 1995: 173). E.g. 2. p. sg **úne** (abs. case) : **úne** (gen.-erg. case).

Bur Ys dat. **-a** (T-P 23), in Hz **-a-r**, Ng **-a-r(e)** (B I:63) < IE dat. sg. **-(e)i** (Beekes 173). The Ys forms do not have the **-r** ending (for further details refer to 8.1.1). E.g. 3. p. *h* pl. abs. **u** ‘they’ dat. **úa(r)** ‘to them’ etc.

Bur abl. **-um**, **-m** / **-mo** (the latter used to form possessive adjectives) (B I:63) [(note the parallel with TochB abl. **-mem** (Winter 1998:160)] or rather from the IE instr. ***-mi**, as in Sl **kamenimi** ‘stone’ (inst. sg.). Note also the Arm inst. sg. ending **-amb** (Beekes 1995: 114-115). For example, from **khóle** ‘here’ : **khólum** ‘from here’ (B I 69).

Bur abl. postp. **-čum** also **-čimo** ‘from’ (B 70) can be compared with PSI ***sŭnŭ** ‘with; of, from’ (IEW 904), i.e. ultimately from IE ***sem-s** ~ ***sem** ~ ***sm-ih_a** ‘united as one, one together’ (for a detailed discussion see 8.1.4. and

Čašule 2009a), from which we have Bur **-čhāmanum** (L 47 - **samanum**) (B 73) Hz Ng ‘first-born (son, daughter, young animal)’. The Bur form is from a zero-grade form ***sm-** and in Bur **μ** > **-um**, **-am**. (For the **čh** : **s** alternation, see Čašule 2003b: 28-29) (see 8.1.1.) E.g. **incum** = ‘from him’: **in** ‘he’ + **-cum** ‘from’.

Bur instr. adess. **-ate** ‘on, with’ (composite ending: **-ate** (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**). E.g. Bur **esēete** = ‘with it’: **ese** ‘it’ + **-ate** ‘with’.

Bur loc. (specific ending) **-i** (B I:63) < IE loc. sg. **-i** (Watkins 1998:65). For example: **khóle** ‘here’ : Ng **khóléi** ‘here’ (B 256).

4. Correlation of the Burushaski demonstrative system with Indo-European

The Burushaski system of demonstratives can be correlated with, and derived from, the Indo-European demonstrative system.

As indicated before, Burushaski nouns are traditionally grouped in four classes (for a general discussion of the underlying semantics of the different classes, see Benveniste (1948-1949):

- *h*-class ‘human beings’, subdivided in *m* (masc.) and *f* (fem.).
- *x*-class ‘non-human animate beings and individually conceived objects’.
- *y*-class ‘amorphous substances and abstract ideas’.

A fourth category, labelled *z*-form is used for counting.

It is indicative that in the demonstratives, the Burushaski *human* (masc. and fem.) class corresponds with the IE fem. and masc. gender pronouns, and the *x*- and *y*-classes correspond with the Indo-European neutral gender forms.

All three classes have separate forms of the demonstrative pronouns. The proximate demonstratives are derived by preposing the morpheme **kho-** (in some dialects alternating with **gu-**) or **kh(i)-** to the forms of the distal demonstratives.

The demonstrative pronouns are also used as 3. p. pronouns. An important characteristic is that in at least two classes, the plural demonstrative pronouns are of suppletive nature, i.e. from a different pronominal stem to the singular.

Berger segments the core deictic elements of the Burushaski demonstrative pronouns in the following table:

	h	x	y
sg.	<i>n</i>	<i>s</i>	<i>t</i>
pl.	<i>u</i>	<i>ċ</i>	<i>k</i>

Table 4. Core deictic Burushaski elements (Berger 2008:71).

In the next table we summarize the correspondences between the Indo-European and Burushaski demonstrative pronouns:

DEMONSTRATIVE PRONOUNS

<u>Indo-European</u>	<u>Burushaski</u>
	<i>Distal</i>
	<i>Singular</i>
*i- / *e- dem. and pers. pron.	i- / ĭ- / é- / ée- pron. prefix, 3 p. sg. <i>hmxy</i> .
*i- + *eno- or *i- + *ne-	iné, in, Ys in, ne ‘that one; he, she, it’ (<i>h</i>)
*is-(e) ‘it’	isé, es, Ys se, os ‘that one, it’ (<i>x</i>)
*id- or *it-(e) ‘it’	ité, et, Ys te, ot y sg ‘that one, it’ (<i>y</i>)
	<i>Plural</i>
*au-, *u-, *ue- ‘that, other’	ué, u ‘they, those, those people, the’ (<i>h</i>)
*is-(e) ‘it’ or *it-se	icé, ē, Ys cé, oc ‘those’ (<i>x</i>)
*(i)-ge assev. emph. part.	iké, ek, Ys ke, ok (<i>y</i>) ‘those’
	<i>Proximate</i>
*kō-, *ki- ‘this one’	kho- or kh(i)- ‘this one’ added to all distal pron.

Table 5. The correlation of the Indo-European and Burushaski demonstrative pronouns

4.1. Distal demonstratives

We discuss first the basic distal demonstratives together with their derivation from Indo-European:

[1] *h*-class, sg. : Hz Ng **iné** [B (ibid) segments it as **i-n-é**] **in**, Ys **in**, **ne** [B segments it as **n-e**] ‘that one; he, she, it’ (B 213).

We can derive Bur **iné**, **in** < IE ***i-** dem. and pers. pron. + IE ***eno-** (probably an extension of a stem < ***e-**) or ***ono-**, e.g. Hitt **ēni** ‘that one’, OCS **onč** ‘that; he’ (Fortson 2004: 130), also Sl **ino-** ‘other’, Lith **anás** ‘that’, perhaps also in Gk **keĩnos** ‘that’ (< ***ke-eno**), and Gk Thess **tó-ne** ‘this here’, Skt **anyá-h** ‘other’, Arm **ter-n** ‘the gentleman there’ (Brugmann 1904:82-115: IE ***ne** ‘distal deictic particle’), Arm **no-** ‘yon’¹¹ and further OEng **geon** ‘that’ < Grmc ***jaino-**, ***jeno-** (Wat 35). The particle appears in various IE demonstrative pronouns as the second element of a compound, of pronominal origin and originally expressed ‘nearness to a third person’. In Burushaski we would have: ***i-** + ***(e)ne** : ***i-** + ***(e)no**.

In regard to the IE demonstrative ***e/i-** (Watkins 1998: 66) note the direct correspondence with Bur **ič** / **í** / **é** / **ée-** pronominal prefix for 3 pers. sg. *hmxy*.

For the Burushaski ending **-é** in the entire demonstrative series: **iné**, **ité**, **isé** etc., and in the adverbs, there are several possibilities — it may be derived from the IE adverbial and adnominal particle ***ē** or ***ě** : ***ō** or ***ō ý**; (IEW 280) (Wat 22) which “fused” with the gen.erg. ending **-e**. The use of forms with and without **-é** may be a sign that it is secondary in the demonstrative pronominal system. Note the tentative parallel with Lat **iste/ille**, with a final **-e** in the nom. masc. sg forms, whose “origin remains obscure, although it may derive from the bare stem with **-e-grade**” (Vineis 1998: 294) and need not go back to an older **-e**.

The Ys forms **se**, **os**; **te**, **ot**; **ke**, **ok** and **če**, **oč** with the alternation **e** : **o** may be further confirmation of this

¹¹Note that Armenian makes use of the same core deictic markers as Burushaski in the demonstrative stems (except for Bur **-s-**): “Arm **so-** (< ***k ýo-**) ‘this’, **do-** ‘that’ (< ***to-**) and **no-** ‘yon’ (< ***no-**)” (Arjello 1998: 216).

proposal.

[1a] *h*-class, pl. The plural stem is suppletive. The *h pl* **u**é, **u**, Ys **u**, **we** ‘they, those, those people, the’ (B 213) (L 51) can be correlated directly with the IE demonstrative ***au-**, ***u-**, ***ue-** ‘that, other’ (IEW 73-75) or rather the IE particle **u** or **ū** for which the basic meaning of an emphasizing particle has been assumed (e.g. Gk **pán-u** ‘altogether, very’, Lat **u-bi** ‘there’, Av **ava-** ‘that one’, Skt **asaú** ‘that’ (“the basic meaning it conveyed was *you*-deixis” Lehmann 2002: 91, 94). Note in Burushaski also the pronominal prefix for 3. p. *hx pl*: **u-** / **ú-** / **ó-** / **óo-** (B 213).

[2] *x*-class sg. Hz Ng **isé**, **es**, Ys **se**, **os** ‘that one, it’ (B 215). We derive **isé** [Berger segments it as **i-s-é**], **es** from IE ***is** ‘he, it’ (GI 253) (IEW 281-283: **e-**, **ei-**, **i-**) (Wat 35-36: ***i-**) e.g. Lat **is** ‘he’, Goth **is** ‘he’, Lith **jí**, **jí** ‘he, she’, Gk (Cypriot) **ín** ‘him, her’, HierLuw **is** ‘this’, etc. (widespread in IE) (M-A 458).

Berger (2008: 9.8) suggests that the *x*-class sg. distal demonstrative **es** is also used postpositively, i.e. is the same as the nominal suffix Ys **-es**, Hz Ng **-is** / **-as** (e.g. **joṭ** ‘small’ > **jóṭis** ‘small child’, Ys **hálmunes** : **hálmun** ‘rib’ etc. We have correlated the Burushaski suffix with the IE Nom. sg. ending **-is**, **-us**. Berger’s proposition is semantically and derivationally somewhat difficult and needs to be investigated further, especially as there appears to be no trace in the suffix **-es** of a demonstrative or definite meaning. It is striking, however, that a similar derivational process was suggested by Brugmann and other earlier linguists for PIE (q. in Lehmann 2002: 168), where “the **-s** in the nominative singular (...) was associated with the deictic particle ***so** ‘this’”.

[2a] The *x*-class pl. is Hz Ng **icé**, **ec̣**, Ys **cé**, **oc̣** ‘those’. We concur with Berger (2008: 71) that in this class the sg. and pl. demonstratives derive from one original form. The plural is most likely a morphological variation of the singular form, considering the **ç** : **s** alternation in Bur — very indicative in this respect is the identical Ys *sg* and *pl* form of the proximate pronoun **khos** (see 4.2).

Another perhaps questionable explanation could be that the plural is a redetermination between the related ***it-** and ***is-** forms, i.e. **icé** < ***it-se**, esp. considering the semantics of the nouns of the *x*-class, i.e. ‘non-human

animate beings and individually conceived objects'. In that respect, note the extension/redetermination in e.g. Oscan **ísídum** (< ***is-id-um**) (Silvestri 1998: 334).

[3] *y*-class, sg. Bur **ité** [Berger segments it as **i-t-é**], **et**, Ys **te**, **ot y sg** 'that one, it' (B 217). We derive **ité**, **et** 'it', very precisely semantically from IE ***it** 'it' (GI 253) or ***h₁id-** (M-A 458), e.g. Lat **id** 'it', OEng **it** 'it', Goth **is/ita** 'he, it', OInd **idám** 'it, this'.

[3a] *y*-class, pl. **iké**, **ek**, Ys **ke**, **ok**. 'those, the; those ones, they' (L 42) (B 217). The *y pl* involves a change from a sg. **it-** demonstrative base to a pl. **ik-** dem. base. The latter can be correlated with the IE asseverative and emphatic particle, used postpositively, ***ge** as in Gk **ge** 'indeed' or in the affix in Goth **mik** 'me' (Lehmann 93) or the enclitic particle **-k** (as in Oscan determiner/anaphoric pronoun nom. sg. **iz-i-k** and gen. sg. **eiseis** vs. gen. pl. **eisun-k** (Silvestri 1998:334-335). Since *y* class nouns refer to 'amorphous substances and abstract ideas' the notion that their plural could be indicated by an emphasising (or indefinite) particle is semantically sound.

Following this same line of reasoning, it could on the other hand be correlated with Bur **ke** 'also, too, and; it also seems to serve as an emphasising particle' (...) "**ke** frequently follows immediately after indefinite pronouns and indefinite adverbs of time and place" (L 231-232), which has been derived from IE ***k^we** 'and' (IEW 519, e.g. Phrg **ke** 'and, also, but', Gk **te**, Lat **que** (see Čašule 1998:26). Alternately, and less likely, the plural ending could be correlated with the IE indefinite/interrogative base ***k^wo-**, ***k^wi-** (Wat 46) in the sense of 'some quantity; much'. Note in this respect the Albanian particle **aq** 'so much' which Demiraj (1997:80) derives < **a-** + **q** (< IE ***k^woi-**).

4.2. Proximate demonstrative pronouns

The Burushaski proximate demonstrative pronouns are formed by prefixing **kho-**, (dialectally also **gu-**) or **kh(i)-** to the distal demonstrative pronouns:

[4] Bur **kh-i-né**, **kh-i-n** *h sg* 'this one; he, she' (*h pl* **khué** and **khu** 'these') vs **iné**, **in** 'that one; he, she, it' (*h pl* **ué**, **u**, Ys **u**, **we**) (B I:6.7).

[5] Ng **kho-sé**, Hz Ys **gusé**, Hz Ng Ys **khos** *x sg* 'this

one' (*x pl* Ng **khoćé**, Hz Ng **khoć** (Ys **khos**), Hz Ng Ys **gućé** 'these') vs **isé**, **es** *x sg* 'that one, it' (*x pl* **ićé**, **ec**).

[6] Ng **kho-té**, Hz Ys **guté**, Hz Ng Ys **kho-t** *y sg* 'this one' (*y pl* Hz Ng **khok**, Ng **khoké**, Hz Ys **guké** 'these'). vs Bur **ité**, **et** *y sg* 'that one, it' (*y pl* **iké**, **ek**, Ys **ke**, **ok**).

The proximate stem can be correlated directly with the Indo-European demonstrative pronoun ***kō-** 'this one' with variant form ***ki-** (Wat 43): OIr **cē** 'here, on this side', OEng **hē** 'he', Eng **he**, OHG **hiu-tagu** 'on this day, today', OCSl **sī** 'this (one)', Lith **šis** 'this', Lat **cis** 'on this side of', Hitt **ki** 'this', **kinun** 'now' (< ***ki-nú-n**), Alb **sot** 'today' (in M-A 458: ***kis-**) (Fortson 2004: 130).

Most interesting is the identical (structural only?) development as in Albanian, where the prefix **kē-** (considered from a different origin) is added to the demonstratives that derive from IE ***so**, **sā**, **tod** to indicate 'close to' and the prefix **a-** is added to indicate 'far away from': e.g. **a-i** / **a-y**, **a-ta** 'that, those' vs **k-y**, **kē-ta** etc. 'this, these' etc (Demiraj 1998: 493). This is coherent with other correspondences between Albanian and Burushaski, as e.g. in shepherd terminology (Čašule 2009a).

The alternation **kh-** : **g-** in this set of pronouns can be purely phonetic (explained as such by Berger (2008:70) (and with a reduction **o** > **u** in unstressed position), considering various examples of **k(h)-** > **g-** in Bur: e.g. **kapál** : **gapál** 'head' (Sh **kapáalo** — T 2744) (B 146); **kaťál** : **gaťál** 'on foot' (Sh **gaťál**) (B 150); Bur **garmá** 'a (thin) bread cooked with vegetables' (B 148) < IE ***korm-** 'broth, mash'; Bur **gáarc-** (part. **nukáarc(in)** Hz Ng 'run; run away, run off; rush upon, charge; flow, pour down' (B 141) < IE ***kers-** 'to run' : Lat **currō** (<***k̑rse/o**) 'run', **cursum** 'road, run, voyage' etc. (M-A 491); etc. (for further examples see Berger 2008: 3.11 and Čašule 2003b: 41).

On the other hand there could be historical reasons for the **g-** : **k-** alternation in Hz Ys *x,y* proximate demonstrative pronouns, i.e. they could be correlatable to IE ***gho-** [or ***ġho-**] e.g. Lat **hic**, **haec**, **hoc** 'this', in Wat 31: "Base of demonstrative pronouns and deictic pronouns. Suffixed form IE ***ghi-ke**, neuter ***ghod-ke**, with **i** alternating with **o** as in other pronouns (**-kē**, 'here' deictic particle and ***kō-** 'stem of dem. pronoun meaning 'this' with variant form ***ki-**' (Wat 43). There is a high probability

that two semantically identical demonstrative pronouns, differing only in having **ḳ-** or its voiced pair **ġ-** in the anlaut, could have merged.

5. Burushaski demonstrative adverbs

<u>Indo-European</u>	<u>Burushaski</u>
	<i>Distal</i>
* tō(r) -, * tē(r) ‘there’ + * -le dist. part.	teéle , toóle , Ys to , tóle ‘there’ -le also in khóle ‘here’, éle ‘there’, itéle ‘there’ tóorum (Ys taúrum) ‘that much, so much’
* -tali ‘such, of that sort’	taíl ‘as it is, such, so’ and -tali adv. ending
* tam- ‘so much’ < * to-	tanć ‘equal to, as big as, as much as’.
* e- + * -le	ṭam- , tan- intensifier
* it- + éle	éle or eléi or aléi ‘there’
* h₁ith_{3a}- ‘thus’	itéle ‘there’ íti , it ‘that side of; relating to this, of this kind’
	<i>Proximate</i>
* kō- + * -le	khóle ‘here’
* kī- + * h₁ith_{3a}-	khi+iti = khíti ‘on this side, here’, khít ne ‘here’.
* ei- ‘this’	akhíl ‘like this’ (< a + khi + I(e).) akhóle
* do- + * ei-	dakhíl ‘like this’
* dā	da , dáa ‘again, also, and’ and d- verb. prefix

Table 6. Summary of the correlation of the Burushaski demonstrative adverbs with Indo-European

5.1. Distal demonstrative adverbs

5.1.1. Forms with **to-** and **te-**:

1. ‘there’. Bur **teéle** and **toóle**, Ys **to**, **tóle** ‘there’ (B 424-425), from IE ***tōr-**, ***tēr-** (< IE demonstrative pronoun ***to-**) ‘there’ (IEW 1087) (M-A 457) (e.g. ON **þar**, Goth **þar** ‘there’, OInd **tár-hi** ‘at the time, then’) with a likely assimilation **rl** > **l**, with the vowel length as a result of the loss/assimilation of **r**.

The Burushaski particle/suffix **-le** (found also in **khóle** ‘here’, and **éle** ‘there’ and **itéle** ‘there’ < **it** + **éle** (B 217) can be correlated with the IE particle **-le** which conveyed distal deixis (Brugmann, apud Lehmann 2004: 91).

In this respect note that from the same IE stem: ***h₂ol-** ‘beyond; from that side’ (Wat 2-3) or ***h₂élios** ‘other’, Bur has **hóle**, **hólo** ‘out, out of’ and **hólum** ‘outside, other; foreign, strange’ (B 201-202) (analysed in Čašule 2003b: 50-51) and most likely the stem of the numeral ‘2’: **altó** *yz* Ys (Zarubin) **haltó**, **altán** *h*, **altá** and **altác** *x* (Berger 2008: 10.4, Čašule 2009b).

The Burushaski suffix could be further linked to the Burushaski particle **le**, **léi**, **léei** ‘O!’ (“an exclamation used in addressing a male person or persons and usually followed by their name or title” (B 265), which parallels the Slavic particle **lě** (***le**) with a variety of meanings - in South Slavic also a particle used with the vocative (e.g. Mcd (**stara**) **le majko** — **majko le** ‘O, mother’), which Berneker (apud Trubačev 1974, XIV: 171-173) related to the Indo-European demonstrative pronoun **-l(e)-** mentioned above (see Čašule 1998: 44) (consider its use with demonstratives in Sln **tle** vs **tlele** ‘there’, **to** - **tole** ‘that’).

2. ‘that much’. The **-r-** can be found perhaps in Bur **tóorum** (Ys **taúrum**) or **tóoruman**, Ng **tóoruman** ‘as much as that; so much as that; that much; to that degree’ (B 429) (Will 113), from which Berger tentatively derives the Bur numeral **tóorumo** *hxy*, **tóorumi**, **tóorim-** *z*, ‘ten’.

3. ‘such, of that sort’. Bur Hz Ng **tail** (adv.), Ys **tailc** ‘as it is, so, such, like this, of that kind’, (B 415), and the Bur unproductive adverbial ending **-tali** (B 417), also **tai** ‘thus, so, in such manner, as it is, like this’ (B 415) can be derived from IE ***t-ali** ‘such; of that sort, of that size’ (Wat 92-3). Note here the symmetrical IE interrogative pronoun ***k^weh_ali** ‘of what sort, of what size’ (e.g. Lat **quālis** ‘of what sort, of what kind’, Lith **kōlei** ‘how long’, Gk **pēlíkos** ‘how old, how large’ and especially the reconstructed IE form ***k^woli** for OCS **kolikū** ‘how large’, **kolī** ‘how much’ (M-A 457) (in PSI ***ko li**, particle in indef. pron. ‘-ever, whoever, whenever’, e.g. Sln **kjerkoli** ‘where-ever’) from which we derive Bur **kūli**, Ng **kūlo**, particle used after interrogative pronouns; also ‘always’; after verbs: ‘whenever, if ever’; after adverbs of quantity: ‘a little’, with negation ‘never

again' (B 247) (L 236).

4. 'so much, as much'. Bur **tanć** 'equal to, as big as, as much as' (LYs 230) (BYs 180), and as an intensifier in **ṭam-ṭák** 'same, of the same value' (B 444), **tam-taláso** NH 'completely shallow' (B 416) or **tan-láq** 'completely naked' (B 263), **tan-hurgás** 'very thick' (B 206) etc. can be derived from IE ***tam** adverbial form of ***to-** (e.g. Lat **tantus** 'so much') (Wat 92).

5.1.2. Distal forms with *e*.

Bur **éle** or **eléi** or **aléi** 'there' (B 137). The **e-** in **éle** could be a continuant of the IE pronominal stem ***e-**, ***eno-** or ***ono-**, e.g. Hitt **ēni** 'that one' (Fortson 2004: 130).

And further Bur **étpa** 'on that side' (B 138: **ét** + **-pa** 'side'). Note also the **e-** in the variants of the distal demonstrative forms (see above): **ité**, **et**; **isé**, **es**; **iné**, **in**; **in**, **ne**. For the second component **-pa**, compare with TochB **omp** 'there', Lith **-pi** 'at', Gk **epí** 'upon' (Kortlandt 1983: 320).

5.1.3. Distal forms with *i*.

We trace Bur **íti**, Ys also **it** 'that side of, across; relating to this, of this kind' (B 217-218), from IE ***h₁ith₂a-** 'thus': MWels **yt** (verbal particle), Lat **item** 'also, likewise', **ita** 'so, thus, in this manner', Lith (dial.) **it** 'as', OInd **íti** 'thus, in this manner' (M-A 458) — it could be a very old borrowing from Old Indian, yet the form is not found in the surrounding Indo-Aryan languages. Another possibility would be from IE ***h₁idha-** 'here, there' (Čašule 2003b: 74).

Note further Bur **itéle** 'there' < **it** + **éle** (B 217).

5.2. Proximate demonstrative adverbs

5.2.1. Proximate forms with *kho*.

Just as in the demonstrative pronouns, the Burushaski deictic element **kho-**, **kh(i)-** (for its derivation from IE ***kō-** 'this one' with variant form ***kī-** (Wat 43), see point 4.2) is proposed to the stem of the distal demonstrative adverbs to indicate 'I-deixis'.

1. 'here'. Bur **khóle** and **akhóle** 'here' (Ys also **kho** and **akhó**, Ng also **khólei** [L Ng **khulei**] (B 256) vs **teéle** 'there' (B 424-425).

Bur **khíti** 'on this side, here', **khit ne** 'here' (B 255-

256).

2. 'this year; today'. **khúin** Hz Ng 'this year' (Ys **khúin**, **akhúin**, **akhúin** 'today') (B 257). **khúulto** 'today' (B 258) (Cp. with Hitt **kinun** 'now').

5.2.2. Proximate forms with *a-* and *akh-*

1. 'such as this'. There is a Burushaski deictic morpheme **a-** in **akhíl** (also **dakhíl**, **dakhí**) 'such as this, like this, of this kind' (B 14), **akhúru(u)m**, **akhúroman** 'as much as thus; this much, all this; as many as this; so much so many' (L 2 analyses the latter as < **a** + **kh** +**u+r**, where the "**-r**" seems to denote quantity").

2. 'now, today'. Ys **mútuk** : **amútuk** 'now, at present, nowadays' (Hz Ng **muú**, **muúto**) (see Berger 2008: 9.6) and Ys **khúin** : **akhúin**, **akhúin** 'today' (B 257).

3. 'here'. **akhóle** along with **khóle** 'here' (B 256).

The Bur **a-** can be derived < IE ***ei-** 'this' (with the regular change **ei** > **a**), as in Skt **ay-ám** (masc.), **id-ám** (neut.); Av **im** (accus.) 'him', Lat **is**, **ea**, **id** 'this; he, she, it', Goth **is** 'he' (Fortson 2004: 130).

It is tempting to correlate the Burushaski **a-** with the Albanian deictic particle **a-** (derived from IE ***h₂eu-** 'that' (IEW 73), yet the semantics is opposite, as the Albanian particle, even if similarly used in the pronominal system in compounds, means 'distant, afar'. Note also the Albanian particle **aq** 'so much' which Demiraj (1997) derives < **a-** + **q** (< IE ***k^woi-**).

5.2.3. Proximate demonstrative adverbs with *d-*

We have correlated the proximate demonstrative prefix **d-** in **dakhíl**, **dakhí** with Bur **dáa**, Ys **da** '1. again; 2. then and then; 3. further, in addition; 4. also, and; 5. else' "this particle is one of the hardest worked words in the language. It has many shades of meaning which pass into each other, and in any given case the precise meaning is often difficult to determine" (L 103-104) (B 108). A link is possible with the Indo-European demonstrative pronoun ***do**, variant ***to**, in particular PSI ***da** 'and, in order to, yes', (< IE ***dā-**) (probably here also PSI prefix and preposition ***do-** 'to, next to', in verbs it marks completion, action directed towards the speaker, etc. (Skok I:418-419), OPers pron. **dim** 'him, her', OPruss **din**, **dien** 'him, her' (IEW 181-

182). Considering the productive use, semantics and the functions of Bur **dáa**, it could be correlated with the so-called complex “historical” Burushaski verbal prefix **d-**, which often refers to action directed towards the speaker and sometimes with an emphasising function, ultimately deriving from a deictic meaning (as pointed out by Bashir 1985, 2004) (Čašule 1998: 40).

Note also the very interesting direct correspondence between Lat **demque** ‘then’ and Bur **dóon ke** ‘all the same, yet’ (L 146) (B 121-122) which most likely belongs to this set.

6. Interrogative and relative pronouns

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 (B I: 82, f30). For example: Bur **men** sg. and h pl., also **ménik** pl. ‘who?, what?; someone, anyone’ (an occasional pl. form of the indef. pron. is **méniko**). **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-**). For the alternation between forms without and with initial **a-** (of demonstrative origin), note above Ys **khúin**, **akhúin**, **akhúin** ‘today’, **akhóle** along with **khóle** ‘here’, Ys **mútuk : amútuk** ‘now, at present, nowadays’.

We can correlate them with the Indo-European interrogative/relative pronoun ***me-**, **mo-** : e.g. TochA **mákte** ‘how’, **mánt** ‘how’, **máksu** ‘who’ (interrogative, relative), Hitt **mān** ‘whether, when’, **masi** ‘how much, how many’, OIr **mā** ‘when’ (Puhvel 39-43), which M-A (457) consider “a very likely candidate for PIE status” (B-K 524: ***mi-**, ***me-**).

7. Discussion and conclusions

The analysis of the Burushaski personal pronouns and the system of demonstratives shows essentially a close correlation with Indo-European.

The historical derivation of the absolutive/nominative Burushaski personal pronouns from Indo-European is mostly straightforward, except for the 2. p. sg. pronoun where there are various interpretations.

The most significant difference between the two systems is in the oblique case forms for the 1. and 2. p. pers. pronouns. The Burushaski case endings, fully derivable from Indo-European, are simply added to the absolutive case form of the personal and the demonstrative pronouns, typologically more like agglutinative particles, whereas in Indo-European the personal pronouns have independent shapes for the nominative and oblique cases.

A pertinent difference is also the use of **go-** (and related forms) as a pronominal prefix for the 2. p. sg. and the structure of the pronominal prefixes in general.

A specific characteristic of the Burushaski personal pronouns within Indo-European is the use of a form for 1. p. pl. in **mi**, **me-** etc. paralleling Baltic, Slavic and Armenian, possibly involving a **w > (b) > m** change both in the 1. and 2. p. pl.

While the entire Burushaski demonstrative system (pronouns and adverbs) corresponds with Indo-European, an important specific characteristic of Burushaski is that for two classes, it uses suppletive forms in the plural demonstratives.

As a category, the Burushaski *human* (masc. and fem.) class corresponds with the IE masc. and fem. gender pronouns, and the *x*- and *y*-classes correspond with the Indo-European neutral gender forms.

A significant differential trait are the Burushaski forms for the *y*-class plural for which we find no direct parallel in Indo-European. They can be explained as compound forms, where the plural endings carry the meaning of ‘a lot of’ which can be expected as the *y*-class refers essentially to ‘amorphous substances and abstract ideas’, concepts that do not have a plural in many languages but whose “plurality” can be expressed with some type of quantifier.

Most interesting is Berger’s (2008: 9.8) analysis of the postpositive use of the *x*-class sg. distal demonstrative **es** i.e. the suggestion that it is the same as the nominal suffix **Ys -es**, **Hz Ng -is**, which we have correlated with the IE Nom.

sg. ending **-is**, **-us**. It is pertinent, however, that a similar derivational process was suggested by Brugmann and other earlier linguists for PIE (or rather Pre-Indo-European?) (q. in Lehmann 2002: 168), where “the **-s** in the nominative singular (...) was associated with the deictic particle ***so** ‘this’”.

Within Indo-European very interesting is the Burushaski very productive use of the Indo-European distal particle **-le** which manifests the whole semantic range of this particle as in Slavic and South Slavic (for a detailed analysis see Čašule (2012a)).

In his correlation of the demonstrative system of Balto-Slavic, Armenian and Tocharian, Kortlandt (1983: 321-322) proposes a reconstruction where “we start from a demonstrative pronoun **so**, **to**, an anaphoric pronoun **e/i** and three deictic particles **k'**, **au**, **an**” from which the respective demonstrative systems can be derived. Consider (slightly simplified and schematized) the Burushaski repertoire which corresponds very closely with the system reconstructed by Kortlandt:

e/i-
e/i + se (<**so-e** ?) = **ise** e/i + **te** (<**to-e** ?) = **ite** e/i + **ne** (<**no-e** ?) = **ine**
ki, **ko**-
au (pl.)
ei -
to-, **da** / **daa** (< **dā**-)

It is very indicative that this shared system matches the correlation of Burushaski with Baltic, Slavic and Armenian in the pronominal form for the 1. person plural (2.3.), and with the Slavic instrumental ending.

Perhaps the most striking trait Burushaski shares within Indo-European is the use of **kho-**, **khi-** which is prefixed to the distal forms to derive the proximate demonstratives, which parallels the unique Albanian development where the Albanian prefix **ke** **ý** is preposed in the same way before the distal pronouns.

It can be said that, in spite of the important typological differences, which may be a result of language contact, Burushaski continues the Indo-European personal and demonstrative pronominal system in many respects more consistently and extensively than some of the other

branches of Indo-European.

Another important Burushaski-Albanian and Slavic commonality can be found also in the numeral system. Morphologically, the endings of the Burushaski numbers 2, 4, 5, (most probably also 6) and 9 can be traced to the IE ordinal numbers with **-to**, in Bur also **-ti** (in the forms used for counting) (the latter perhaps from the IE abstracts in **-ti**), generally the same as in Albanian and Slavic (Čašule 2009b).

These specific grammatical correspondences correlate with a number of lexical isoglosses with Slavic and esp. with the Albanian and Romanian ancient Balkan substratal lexis (for which, see e.g. Brâncuş (1983), Poghirc (1967), Russu (1967) (1970) and Burushaski. In Čašule (2009b), out of the 31 Burushaski autochthonous shepherd terms of (non-Indo-Iranian) Indo-European origin (and with no semantic latitude), 10 correspond closely with the Albanian and Romanian substratal pastoral vocabulary.

In the anatomical parts vocabulary, Burushaski consistently correlates most closely with North-Western Indo-European developments (Čašule 2003a). In the vocabulary involving reflexes of Indo-European gutturals, there are e.g. 28 stems where Burushaski aligns itself with NWIE (Čašule 2010).

The eminent Indo-Europeanist Eric Hamp, has examined all of Čašule's Burushaski publications and unpublished materials (to 2009) and has accepted a large number of the autochthonous Indo-European etymologies (Topolińska Zuzanna p.c.). In a University of Chicago 2009 lecture handout of the Indo-European genealogical tree Hamp places Burushaski at the margins in a "sister-relationship" in regard to Indo-European, i.e. suggests an origin of Proto-Indo-European and Burushaski from a common ancestor. We reiterate Hamp's newest assessment (in Čašule 2011a) : "Burushaski is *at bottom* Indo-European [italics EH] — more correctly in relation to IE or IH, maybe (needs more proof) IB[uru]" and further conjectures: "I have wondered if Burushaski is a creolized derivative; now I ask (Čašule 2009a) is it a shepherd creole ? (as in ancient Britain)". This statement goes hand in hand with the tentative conclusion that Burushaski might

be “a language that has been transformed typologically at some stage of its development through language contact.” (Čašule 2010: 70). It is well known, not least from the Balkan linguistic area itself, for example, that typological transformations can often be a result of intense language contact and can obscure a fundamentally close genetic relationship.

In the Addendum (8.1.1) we have put forward a coherent analysis, which needs to be elaborated further, which shows that the Burushaski nominal system could have been restructured due to language contact between an inflectional Indo-European language (the ancestor of Burushaski) and an agglutinative language. The possibility that Burushaski ergativity could be a result of language contact as well, requires careful scrutiny and is yet to be investigated.

It is indicative that many Burushaski typological traits have been suggested (even if not agreed upon by all) for the earliest form of Indo-European, i.e. Pre-Indo-European (Lehmann 2002) — its nominative-ergative structure with elements of an active structure, its inflectional-agglutinative type, the SOV order, the precise retention of the laryngeals, etc.

If in our theoretical approach we give sway to the typological differences (and they are more considerable in the nominal system and much less so in the verbal system), then we should contemplate a more distant, sister-relationship.

Based on the analysis of the personal and demonstrative pronouns, we can say that the evidence in Burushaski is strong for a common origin with Indo-European.

From all our available evidence we can also ascertain that Burushaski is definitely not an Indic or Iranian language.

Based on the evidence in this paper, and especially on the correlation of its verbal system and the other numerous grammatical and derivational correspondences with Indo-European, as well as on the very large number of lexical correspondences (over 500) in core and compact semantic fields, we could say that Burushaski is a separate, very archaic branch, derivable from Pre-Indo-European. Its

status would be comparable to the position of the Anatolian languages within what sometimes has been called Indo-Hittite.

This would mean a grouping: Indo-European — Anatolian — Burushaski, all deriving from Pre-Indo-European:

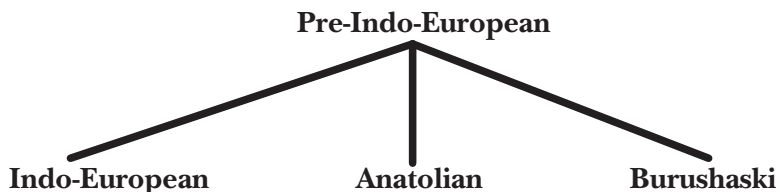


Table 7. Burushaski as a branch of Pre-Indo-European (?)

Nevertheless, we have identified many lexical, grammatical and derivational correspondences/isoglosses between Burushaski and North-Western Indo-European. In the lexical correspondences, i.e. in the stratification of its vocabulary, Burushaski shows the greatest number of correlations with the Ancient Balkan languages (especially Phrygian but also Thracian, Ancient Macedonian) and Albanian, on the one hand and with Balto-Slavic and Germanic on the other. More importantly, as it shares a number of common developments and innovations with the NWIE branch within Proto-Indo-European, our preferred interpretation is that Burushaski could be a sub-branch of North-Western Indo-European, and a language that has been transformed typologically at some stage of its development through language contact.

Consider the following genealogical tree of North-Western Indo-European from another Hamp (2009) handout, where we have inserted the possible position for Burushaski with asterisks.

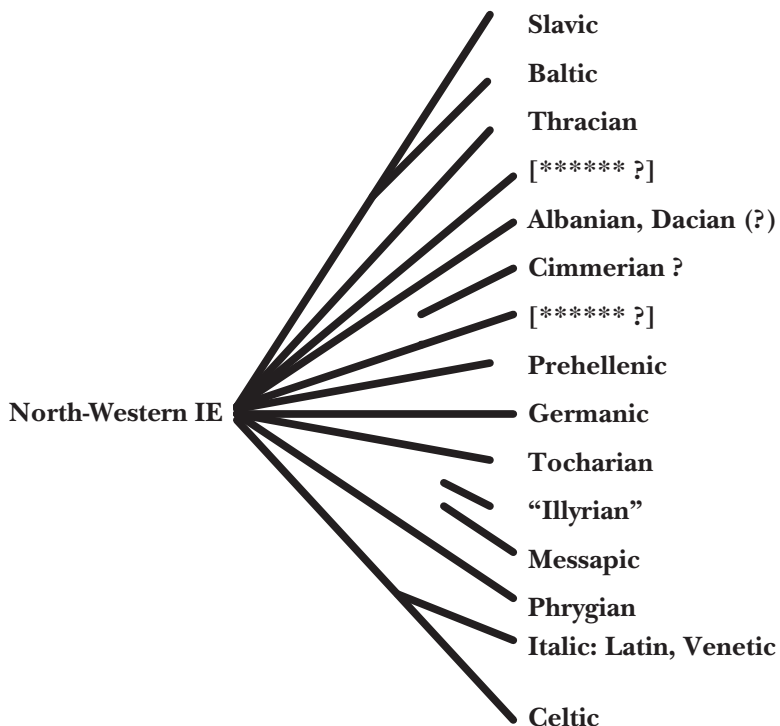


Table 8. North-Western Indo-European according to a 2009 Hamp handout (with our insertion of Burushaski). See also Hamp (1990) q. in Mallory-Adams (2006: 74).

Any Indo-European genetic classification of the Burushaski language would also have to account for the very convincing and close lexical correspondences with the Ancient Balkan languages and ascertain whether it may actually turn out to be a descendant of one of the Ancient Balkan languages (the elusive Balkan substratum?).

Another important task ahead is to trace the origin of the Burushaski non-core non-Indo-European vocabulary which may hold the clue as to which language(s) were historically in contact with an Indo-European language in giving the modern shape of Burushaski.

Abbreviations of sources cited

- B** = Berger, Hermann. 1998.
BYs = Berger, Hermann. 1974.
Cunn = Cunningham, A. 1854.
DC = Tiffou, E., Morin, Y.C. 1989a.
E-K = Edel'man, D. I. and Klimov, G. A. 1970.
E-M = Ernout, A. and Meillet, A. 1959.
ESSJ = Trubačev, O. 1974-
G = Gluhak, Alemko. 1993.
G-I = Gamkrelidze, T.V. and Ivanov, V.V. 1984.
Hay = Hayward, G. W. 1871.
IEW = Pokorny, Julius. 1959.
L = Lorimer, David L.R. 1938.
L I = Lorimer, David L.R. 1935.
Leit = Leitner, G.W. 1889.
LYs = Lorimer, David L.R. 1962.
M-A = Mallory, J.P. and Adams, D.Q. (eds.). 1997.
M-A2 = Mallory, J.P. and Adams, D.Q. 2006.
T = Turner, Ralph L. 1966.
T-M = Tiffou, Etienne and Morin, Yves Charles. 1989.
T-P = Tiffou, Etienne and Pesot, Jurgen. 1989.
Wat = Watkins, Calvert. 2000.
Will = Willson, Stephen R. 1999.
W-I-S = Wodko, D. et al.2008.

Abbreviations of languages and dialects

Alb - Albanian, **AncMcd** - Ancient Macedonian, **Arm** - Armenian, **Arom** - Arumanian, **Av** - Avestan, **Balt** - Baltic, **Blg** - Bulgarian, **Bret** - Breton, **Bur** - Burushaski, **Celt** - Celtic, **Corn** - Cornish, **Croat** - Croatian, **Cymr** - Cymric, **Cz** - Czech, **D ýom** - D omaaki, **Eng** - English, **Gk** - Greek, **Gk Att** - Attic Greek, **Gk Ion** - Ionian Greek, **Goth** - Gothic, **Grm** - German, **Grmc** - Germanic, **H** - Hindi, **Hitt** - Hittite, **Hung** - Hungarian, **Hz** - Hunza dialect of Burushaski, **IA** - Indo-Aryan, **IE** - Indo-European, **Illyr** - Illyrian, **Ind** - Indian, **Ir** - Irish, **Irn** - Iranian, **Itl** - Italic, **Khw** - Khowar, **Lat** - Latin, **Lett** - Lettish, **Lith** - Lithuanian, **Mcd** - Macedonian, **MEng** - Middle English, **MGk** - Modern Greek, **MHG** - Middle High German, **MIA** - Middle Indo-Aryan, **MIr** - Middle Irish', **Mold** - Moldavian, **Myc** - Mycenaean Greek, **MWels** - Middle Welsh, **Nep** - Nepali, **Ng** - Nager dialect of Burushaski, **NWIE** - North-Western Indo-European, **OCS** -

Old Church Slavonic, **OEng** - Old English, **OHG** - Old High German, **OInd** - Old Indian, **ON** - Old Norse, **OPers** - Old Persian, **OPrus** - Old Prussian, **OSI** - Old Slavic, **Osset** - Ossetian, **OWels** - Old Welsh, **PAlb** - Proto-Albanian, **Panj** - Panjābi, **Pers** - Persian, **PGrmc** - Proto-Germanic, **Phrg** - Phrygian, **PIE** - Proto-Indo-European, **Pk** - Prakrit, **Pl** - Polish, **PNC** - Proto-North Caucasian, **PSI** - Proto-Slavic, **Rom** - Romanian, **Russ** - Russian, **Sh** - Shina, **Skt** - Sanskrit, **Sl** - Slavic, **Srb** - Serbian, **SSI** - South Slavic, **Thrac** - Thracian, **Tib** - Tibetan, **Toch A**, **Toch B** - Tocharian A, Tocharian B, **Turk** - Turkish, **U** - Urdu, **Ukr** - Ukrainian, **Umb** - Umbrian, **Wels** - Welsh, **Ys** - Yasin dialect of Burushaski.

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ADDENDUM.

8. Summary of other Burushaski grammatical correspondences with Indo-European

The semantic precision, the large number of shared basic lexical items (over 500), as well as the consistent phonological correspondences with Indo-European and the close correlation of the Burushaski and Indo-European pronominal systems, naturally raise the question of the correlations on the derivational and grammatical plane, which as is well known, are crucial in determining genetic affiliation. In this addendum we outline briefly some of the more outstanding non-phonological correspondences, which match our findings at the phonological and lexical level. Much important detail has had to be left out in this selective summary. The extensive and precise correlation between Burushaski and Indo-European in all grammatical categories and parts of speech advances strongly and perhaps even provides the conclusive proof of the Indo-European origin of Burushaski.

8.1. Nominal system

8.1.1. Nouns

The comparative historical nominal morphology of Burushaski and Indo-European has not been investigated in detail. It is a highly complex task and much remains to be done.

We note evidence of the preservation of IE **-o* stems, **-i* stems, **-u* stems, **-eh_a* stems, *-men* stems and consonantal stems in Burushaski:

**-o* stems:

- Bur **handó** ‘stone’ < IE **h_xond-* / **h_xnd-* ‘stone, rock’.
- Bur **-phágo** ‘stick, staff’ < **pāĝ-*, ‘fasten; strengthen; parts to drive in, peg, post’ and **phañ man-** ‘push, press forward’ < IE **pa-n-ĝ-*, (Lat **pangō** ‘drive in’).
- Bur **hurgó**, Ys: **horgó** ‘ascent, slope up; uphill’ < IE **h₄órĝhei* ‘mounts’ (‘climb up; rise, become puffed up’).
- Bur **karéelo** ‘ram’, **kíro** NH ‘sheep’ (B 245) **káru** ‘ibex’ (BYs 157), **krízí** and **krózo** ‘sheep and goats’ < IE **kors-*, **kerəuos* ‘horned’, **ker-*, **kerh₂(s)* ‘horn’.

— Bur Ys **doğói**, Hz **duğúi** ‘noon’ > IE ***dhog^wh-eyo-** ‘burn, warm’ suff. **o**-grade (caus.) form < IE ***dheg^wh-** (esp. PGmc ***dagaz** ‘day’, Goth **dags** ‘day’).

— Bur **karkós** ‘young sapling; stem of flower’ < IE ***ker-h_xk-** ‘branch’.

— Bur **duró** (L also **daró**) ‘work, affair’, **duroó -ć-**, **duróoyas** ‘to work’ < IE ***derh₂₋**, ***drā-**, zero-grade ***d₂rh₂₋** ‘to work’.

— Bur **řáro** pl. **řáromuč** and **řóro**, pl. **řóromuč** ‘cowdung beetle’ < IE ***ter⁶-** ‘noxious insects’ (e.g. Lat. **tarmes** (**termes**) ‘wood worm’ (from an **o**-stem ***t_ɛrθmo-s**)).

— Bur **ğunó** ‘seed; sperm’ < IE ***ğ_ŋ** - in words for ‘beget’, ‘bear’, ‘be born’ (> ‘semen’ : Gk **gónos** ‘sperm, semen’).

— Bur **ğoró**, **ğuró** ‘stones’ < IE ***g^wer-**, ***g^wor-** (***g^werh₃₋**) ‘mountain’ (Alb **gur** ‘stone’).

— Bur **hamíso** ‘a small insect’ < IE ***h₁empis** ‘gnat, stinging insect’.

— Bur **hağúc** (Ys **hağós**) ‘pass, mountain-pass’ < IE ***h_aeğ-** ‘drive’.

— Bur **dúrgas** ‘ghost of the deceased’ < IE ***dhroughos** ‘phantom’ (unstressed **o** > **a**).

— Bur **khándas** ‘a tick’ < ***k(o)nid-** ‘nit, louse egg’ (**o** > **a**).

— IE ***suékuros** ‘father-in-law’ (M-A2 215) : Bur **:- skir** ‘father-in-law’, the **-os** of the sg. is retained in the pl. form **:- skirišo** (**i:u, o>ui**).

***i** stems:

— Bur **huyés**, **huís** (sg and pl) ‘small cattle (sheep and goats)’ < IE ***h₂óuis** (gen. ***h₂óuios**) ‘sheep’.

— Bur **gabí** ‘reed, tube, hollow stalk; horse’s bit’ < IE ***ğebh-** ‘branch, stick’ (e.g. OIcl **kafi** ‘a cut off stick’, **kefli** ‘cable; stick; gag’).

— Bur **kharéti** ‘small wicker basket’ (< ***k_ɾət-i-** or ***k_ɾt-i-**) < IE ***kert-** ‘plait, twine’ (e.g. Lat **crātis** (< ***k_ɾət-i-**) ‘wickerwork, hurdle, honeycomb’).

— Bur **tési** ‘roof (external aspect)’ < IE ***(s)tég-es**, ***tég-es-os** ‘roof’ (e.g. Gk **tégos** ‘roof’), < ***(s)teg-** ‘to cover’.

— Bur **garí** ‘lamp, light; pupil of eye’ < IE ***g^wher-** ‘to heat, warm’.

— Bur **ğéniş** ‘queen’ < IE ***g^wén-i-** ‘woman’ (> Eng **queen**).

— Hz Ng **-úř** and **-úřis**, Bur Ys **-húřes** ‘foot, lower leg’ **hóři** ‘artificial penis’ < IE ***h₁óuh_xdh_ɾ-** < ***h₁euh_xdh-** ‘swell (with

fluid)' (M-A 82), esp. PSI **udū-* 'limb, penis'.

—Bur **buúri** 'crest of hill, peak', **-úri** and **-úriš** 'crest, ridge, mountain peak; prong; fingernail' < IE **uer-* 'high raised spot or other bodily infirmity', zero-grade **ur̥-*.

—Bur **báli** 'wine container made of clay; wine measure; earthenware pot' > IE **bhel-* 'pot', zero grade **bh̥-*.

—Bur **ǵásil** 'individual stick or sticks' < **gas-i-lo* (cf. **-díl** 'breast' < **dhi-lo*), < Ys **ǵí** -, Hz Ng **ǵíy-**, 'throw' < IE **ǵhais-os-*, **ǵhais-es-* 'a stick, spear' < IE **ǵhi-* 'throw' (*ses* > *ss* > *ś*).

—Bur **-yátis**, (L) **-yétis**, Ys **-yátes** 'head; mountain peak; leader; a big thing', (T-P 156) **-yátis** < derived by Berger from **-yáte** 'on, upon (someone), up, above', **yát** 'up, above, on top; (adj) upper, further, later, again' (B 475) < IE **h₁eti* 'in addition' (Av **aiti** 'over', OInd **áti** 'over, towards', Phrg **eti-** 'moreover, again' (M-A 215) (in Bur from **-i-eti-s*).

—Bur **basí** 'orchard' < IE **ueis-* 'sprout, grow' (also 'fruit', e.g. OPrus **wēisin** 'fruit').

**-u stems:*¹²

—Bur Ys **-yúngus**, Hz Ng **-úmus** 'tongue' < IE **d_ṛǵhuh_a-* 'tongue'.

— Bur Ys **-núnus**, Hz Ng **-dúmus** 'knee, hock' < **gnung/kus* < **ǵnu-no* < IE **ǵonu-* (gen. **ǵenus*) 'knee, angle' (esp. Alb **ǵju** (< **ǵluno-* < **ǵnu-no*) 'knee'.

— Bur **baǵú** 'double armful', **baǵuç** 'small double armful' < IE **bhāǵhus* '(fore)arm'

—Bur **daǵú** 'glue', **daǵánum** 'thick', **daǵoán** 'flour', **daǵúi** 'raw (not baked)' < IE **dheigh-* 'work clay, smear; build up; form' (> 'dough'), (e.g. ON **ǵigr** 'thick').

—Bur **darú** 'hunting' < IE **der-* 'run, walk, step' (also 'trap, snare') (Wat 16).

— Bur **ǵamá** 'ice, frost; glacier' < IE **ǵheim-* 'winter'.

—Bur **ǵarú** 'spring', and **ǵari** 'lamp, light; pupil of eye' < IE **ǵ^wher-* 'to heat, warm'.

— Bur **mušk** 'forest, thicket' and **mušqú** 'foliage (for sheep)' < IE **busk* 'bush, thicket', Gk **boské** 'fodder, pasture', (Late) Lat **buscus** 'forest'.

¹² Considering the *u* : *o* alternation and variation in Burushaski, some of these stems could have originally been *o*-stems.

- Bur **-móqus** (Ng) **-móqis** (Hz) ‘cheek’, **-móqis** (Ys) ‘face’, **-móqot** (Ys) ‘cheek’ < IE ***smokur-** ‘chin, beard’.
 —Bur **daǵánus** ‘pig (taboo name)’ < **daǵánum** ‘thick’ (ON **digr** ‘thick’, OIr **digen** ‘solid, sturdy’).
 —Bur **kharúu** ‘louse’ < IE ***kōris** ‘biting insect’.
 —Bur **batúl** ‘a thorny plant’ (< IE ***bhe-dho-lo** < ***bhedh-** ‘to prick, dig’).

***-eh_astems:**

- Bur **dalá** pl. **dalámuc**, Ys also **daláh** ‘larger irrigation channel’ (< IE ***dh_lh_ao/eh_a-**) < IE ***dhel-** ‘curve, hollow’, ON **dæla** ‘wooden gutter on ship’, OHG **tol(a)** ‘channel’.
 —Bur **tharbái** ‘pile of stones for fencing or walling off’ < IE ***treb-** ‘construction of planks, dwelling’.
 —Bur **thañá** ‘success, good reputation’ < IE ***tenk-**² ‘thrive, flourish’.
 —Bur Ys **dúlas** ‘boy, young lad’ (cp. with Lett **dêls** ‘son’) (**i** : **u** / **_l**), Bur Ys **-díl** ‘breast, chest’ < IE ***dhh₁ileh_a-** ‘teat, breast’.
 —Bur Ys **mátas** (< IE ***meiteh_a-s**) ‘beam (medium-sized)’.
 —Bur Ys **bálkas** ‘treasure’ < IE ***bhelg-** < ***bhel-** ‘shine’, (e.g. PSI ***bolgo**, SSI **blago** ‘treasure’, Av **bərəg** ‘ritual, custom’ and Skt **bhārgah** ‘light’).
 —Bur **garmá** ‘a (thin) bread, cooked with vegetables’ < IE ***korm-** ‘broth, mash’.

-men stems:

- Bur Ys **asúmun**, **asúmen**, **hasúman**, Hz Ng **asíi**, **hasí** ‘star’ < **háas** ‘glowing embers’ < IE ***h₂eh_x-s-** ‘burn, glow’ (> ‘star, ember’) and the derivatives, e.g. Hitt **hastera** ‘star’.
 —Bur **hoóm** ‘sign, secret advice, secret notice’, with the indef. article: **hoóman** < IE ***h_xeh_x-** ‘trust in, believe’, esp. Latin **ōmen** ‘sign’ (in Wat 59, the IE stem is given as ***ō**, < ***(h₂)eh₃-** ‘colored to ***(h₂)oh₃-**, contracted to ***(h₂)ō**’).
 —Bur **dúuman** ‘pile, heap’ (B 127) < IE ***dhō-mo-** ‘pile’ (IEW 238) (***dhoh₁mo-** or ***dhoh₁men** ?).

Consonantal stems

- Bur **dan** ‘stone’ < IE ***(s)tāi-no-** ‘stone’.
 —Bur **balk** ‘plank, board’ < IE ***bhel-ǵ-** or ***bhel-k-** ‘beam, plank’.
 —Bur **khéen**, Ys **khen** (Ys L **khyen**), **kēn**, **kyēn** ‘time, space’

of time, period, season, celebration' < IE ***k^wyeh₁-**, variant form < ***k^weih₁-** > ***k^wyē-** 'rest, be quiet', in words for 'time' in IE: esp. with an **-n** ext., e.g. ORuss **činŭ** 'time, period'.

—Bur **-móos** 'anger, rage' < IE ***mō-s-** < ***mō-** : ***mē-^ć** (Wat 51: < ***meh₁-**) (esp. Goth **mōþs (-d)** 'courage, anger').

—Bur Ys **-díl**, Hz Ng **-ndíl** 'breast, chest' < IE ***dhh₁ileh₂-** 'teat, breast'.

— Bur **yať** 'wound, annoyance, pestering, argument' < IE ***ieudh-** 'set in motion, make excited, stir up' (> 'incite').

— Bur **hargín** 'dragon which comes into being from a snake' (< ***hargint**) < IE ***h₂erg₂-nt-om** 'silver' in a word for 'dragon', derived from this stem, e.g. Phrygian gloss **argwitas** 'dragon, Lamia'.

— Bur **búran** 'seam, hem' < IE ***bherem-¹** to stick out; edge, hem' and ***bhorm-** : ***bhrem-**.

—Bur **darć** 'cut crops, threshing floor' < IE ***terh₁-** 'rub, turn' (> 'thresh').

—Bur Ys **-yúhar**, Hz Ng **-úyar** pl. **-úyarišo** 'husband' < IE ***uih₂rós** 'man, husband'.

—Bur **batúl** 'a thorny plant' < IE ***bhe-dho-lo** < ***bhedh-** 'to prick, dig' (PSI ***bodulŭ** 'thistle, thorn').

— Bur **gít** 'mud (wet or dry)' < IE ***g^weid(h)-** 'mud'.

Berger (BI: 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, sg. 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 **-yátes** 'head'; Ys **turmúkuťes** 'long insect'; Ys **-yúngus** 'tongue'; Bur **-móqis** (Hz), **-móquš** (Ng) 'cheek', **-móqis** (Ys) 'face' (< ***-irs** or ***-**

urs); **barís** ‘artery’; **-khúkhurus** ‘short lower rib’ (< IE *(s)ker- ‘twist, bend’ : Lith **kr(i)áuklas** ‘rib’); Bur Ys **-núnus**, Hz Ng **-dúmus** ‘knee, hock’; **haǵúc** (Ys **haǵós**) ‘pass, mountain-pass’; **-úlus**, Ys **-húles**, **-húlus** ‘brother’; **daǵánus** ‘pig (taboo name for)’ < **daǵánum** ‘thick’; **karkós** ‘young sapling’; **khándas** ‘a tick’; **-wáldas** ‘the back (anat.)’ (B 465) (< IE *plet- ‘back, shoulders’); Ys **dúlas** ‘boy, young lad’, **-díl** ‘breast, chest’; 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’ etc.

—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 **ǵ-r-** ‘send, dispatch away from the speaker’ (B 361) (Will 50), used also in periphrastic verbal constructions. Note e.g. the dative **mōr** (= **mu-** + **-ar**) ‘to her, for her’ vs the verbal form **mōr-as** ‘to send her’ (L 268).

—IE instr. **-mi** (as in Sl **kamenĩmĩ** ‘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. **-ćum** also **-ćimo** ‘from’ (B 70) can be compared with PSI ***sūnũ** ‘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 **-čámanum** (L 47 **-samanum**) (B 73) Hz Ng ‘first-born’. The Bur form is from a zero-grade form ***sm-** and in Bur **m̄-** > **-um**, **-am**. The Burushaski case ending **-će**, **-ći** ‘on, after’ (Sh **isí**, **ichí** ‘danach’) (B 70) could well be an apocopated form of the same stem.

The Burushaski case endings are the same for both the singular and plural forms, i.e. are essentially

agglutinative in character. It appears that the IE singular case endings were generalised in Burushaski. The great number of Burushaski noun plural endings could thus contain some of the original plural case forms.

A case in point is the productive Burushaski pl. suffix **-nč** (with variants **-inč**, **-anč**, **-yanč**, **-wanč**, **-úanč**) (B I: 51-53) which can be correlated directly with the IE pl. accus. ending **-ns**, **-ŋs** (the second form would explain the **-a** in the Burushaski endings), paralleling the development in Luwian nom. pl where the Anatolian accusative pl. ending ***-ns** was generalised in the nominative pl. as **-nz** (Ramat 177-8). Note also the Bur pl. ending **-č**, which can be compared with IE nom. pl. ending **-es** (Szemerényi 160).¹³

Another process that needs to be considered is the retention in the plural forms of phonemes and morphemes which have been lost in the singular. For example, this is the case with the Bur *h(x)* pl. suffix **-čaro** which is added mainly to words denoting relations (B I: 48), a variation of a suffix **-taro**, e.g. **máma** 'mother', pl. **mámačaro** (B 277) (< IE ***m-h₄em-** ?), **śmi** pl. **śmičaro** 'mother, aunt on mother's side' (B 286) (< IE ***méh_atēr** 'mother'), **-yás** 'sister-in-law', pl. **-yásčaro** and **-yástaro** (B 474), Bur **-úy** and **-ú** pl. **-úyčaro** and **-účaro** 'father; father's brother; in pl. forefathers' (B 460) < IE ***h₂euh₂-**, ***h₂euh₂iios** 'father's father, ancestor on father's side' **śngo** pl. **śngočaro** 'uncle' (B 306), **ś néo** pl. **ś nčočaro** 'father's sister; mother's brother's wife' (perhaps corresponding to IE ***h₁ienh_ater-** 'husband's brother's wife' (M-A2 210) ?), **bapó** 'grandfather, father' pl. **bapóčaro** (also 'prince') (B 37) (from **baba+pater**?). This suffix **-taro** might be the IE suffix ***-ter** (considered by Benveniste (1973: 171) the classifier of the lexical class of kinship terms), found in ***méh_atēr** 'mother', ***ph_atēr** 'father', ***dhuġ(h_a)tēr** 'daughter', ***bhréh_ater** 'brother', which through re-analysis

¹³Perhaps the semantics of the noun and its frequency in use with a particular case could have played a role in which case was "petrified" in the plural. Note e.g. (from IE ***ġebh-** 'branch, stick', **i-stem**) the plural of Bur **¹gabí** 'reed, tube, hollow stalk' [also **gabí ten** 'collarbone' (BYs 144)] which is **gabenc** (B 141), which continues the IE pl. accusative case ("to play/hold/blow + acc. of 'reed'"). On the other hand, Bur **²gabí** 'horse's bit' has a plural pl. **gabímuč** which appears to contain the instrumental case ("to gag *with* bit"). This very tentative explanation needs yet to be investigated carefully.

was understood as part of a plural formation (-**tar-o** > **-taro** : **-čaro**). For an extensive discussion, see Čašule (2012b) (forthcoming).

Furthermore, we have found other cases where a morpheme or phoneme from the singular form has been retained in the plural, but lost in the singular in a shift in morpheme boundaries. For example, consider Bur **ha** ‘house’ (< ***hak** by Berger (2008: 25) (pl. **hakícañ**) or the Nager pl. of **joṭ** ‘small, young man’ is **joṭarko**, which can be analysed as **joṭ-ar-ko** ‘he (they) who is (are) young’ — compare derivationally with Latin ***new-er-ko** > **noverca** ‘stepmother’ (‘she who is new’) (Wat 58); or in Bur **í-i**, sg. ‘daughter’, pl. Hz Ng **-yúgušanč**, Ys pl. **-yúgušina** ‘daughters’, also ‘brother’s daughters’ (B 210) (L 12, 386), which consists of **-yu-** and **gus** ‘woman’ + pl. suffix (the full stem is kept only in the plural form); or Bur **ge**, L also **gye** and Cunn **gye** ‘snow’, Ys **ge**, **gye** (B 151), which derives from IE ***ghyem-** ‘winter, snow’, where these forms could go back to forms with **-m**, as the Ng pl. ending here is **í-miñ**, i.e. the plural form is **g(y)émiñ** < a sg. ***gyem** (Čašule 2010a: ex. [125]), also e.g. Bur **táro** pl. **táromuč** and **tóro**, pl. **tóromuč** ‘cowdung beetle’ : Lat. **tarmes** (**termes**) ‘wood worm’ (from an **o**-stem ***t_crəmo-s**) or Bur **í- skir**, pl. **í- skindaro**, Ng pl. **í- skirišo** ‘father-in-law’ (< IE ***suékuros** ‘father-in-law’), where the Ng *x* pl. **í- skirišo** and the *x* pl. ending **-išo** in general can be re-analysed as ***-is-yo**, with **-is** being the IE animate nom. pl. ending **-es** i.e. Bur * **í- skiris+yo** < ***skires+yo** with ***-yo** correlatable with the IE relational adj. suffix **-io-** ‘of, or belonging to’ (Wat 103).

The numerous Burushaski plural suffixes (Berger I: 57) reveal a very complex system:

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: **-ñ**, **-añ**, **-iñ**, **-ian**; **-miñ**; **-én**, **-on**, **-ón-o**; **-číñ**, Ng **-čan**, **-ícíñ**, Ng **-ícañ**; **-mičíñ**, Ng **-mícañ**

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

h and *x* plurals. We noted that the pl. forms: **-nč**, **-anč**,

-inć, **-ianć** and also **-éñć** and **-ónć**, may derive from the IE accus. pl. (non-neuter) **-ns**. The vowels preceding **-nć** would possibly be a remnant of the IE stems, e.g. IE ***-eh₂ns** (old \bar{a} stems) > Bur **-anć**, IE **-ns** (pure consonantal stems) > Bur **-nć**, IE **i**-stems ***-ins** > Bur **-inć**, IE **o**-stems ***-ons** > Bur **-ónć**, IE ***-ih₂** (accus. neuter of **i**-stems) + ***-ns** > Bur **-ianć** and Bur **-éñć** possibly retaining a trace of the **h₁**-stems (Beekes 1995: 170-193) (Baldi 1999: 310).

The Bur plural ending **-ć**, **-uć** could be a remnant of the nom. pl. case forms.

The Bur plural endings **-muć**, **-umuć** (with **o** > **u** in unstressed position after a labial) could contain the IE ablative/dative pl. suffix ***-b^hos**, ***-mos**, or the instr. pl. **-mi**. The **-u** in **-umuć** parallels directly the pl. forms of the **-u** stems, i.e. IE **-umos**.

The Bur plural suffixes ending in **-o** : **-o**, **-íso**, **-ko** and **-iko** could be a remnant of the **o**-stems. Berger (I 49) indicates that nouns ending in **-s**, **-ć** or **-n** + **-o** > **-ś**, **-ć** 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 **-íso** we may have 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** (as in **datú** 'autumn', **datúko** 'autumn-', 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**).

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

y-plural. All the Bur **y**-plural endings end in **-ñ** : **-ñ**, **-añ**, **-iñ**, **-iañ** (grouped together by Berger I:57), and further **-miñ**; **-éñ**, **-oñ**; **-ón-o**; **-ćiñ**, Ng **-ćañ**; **-ićiñ**, Ng **-ićañ**; **-mićiñ**, Ng **-mićañ**. Bearing in mind that **y**-nouns are non-human non-countable nouns referring to amorphous substances and abstract ideas, we suggest that we have here the IE adjectival compound suffix ***-enko-**, **-ŋko**, e.g. Grmc ***ingo**, ***ungo**, suffix used to form denominal and verbal abstracts, e.g. OEng **leornung** 'knowledge' < **leornian** 'to learn' (Ramat 409). It is conceivable that an IE suffix used to

form abstracts could be used instead of a plural morpheme for abstract nouns : Bur **duró** 'work (noun)' pl. **duró-in** 'work', where the notion/process of 'working' would express plurality in regard to 'work'. This suggestion is further reinforced by the fact that we have derived the Bur adjectival suffix and participial ending **-um** from the same Indo-European derivational suffix.

The **h**-plural (unproductive) ending **-tin** may be a composite suffix consisting of **-t-** (suffix forming agent nouns) or < **-to + -in**. Maybe it is historically a variant of **-cin**, Ng **-čan**; **-icin**, Ng **-ícan**.

It may be that the suffixes **-min** and **-micin** are composite, whereby the first component **-mi** can be traced to the IE instrumental plural ***mi**.

The underlying supposition is that the IE system was reanalysed and applied to a different subcategorisation of nouns and that 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. For language contact between an inflectional and agglutinative language and the adoption of agglutinative patterns, very indicative is the case of Greek in contact with Turkish in Asia Minor (most recently Janse 2001, and Karatsareas 2011).

8.1.2. Adjectives

Nearly all adjectival suffixes in Burushaski can be derived from IE:

—IE relational adj. suffix **-jo-**, **-ijo-** and 'of or belonging to' (Wat 103) : Bur suffix **-yo** and **-yo** e.g. **huyóo** 'wool-bearing animal, sheep' < **huyés**, Ys also: **huís** (sg and pl) 'small cattle (sheep and goats)' and further **mámayo** 'endearing term for 'mother' < **máma**, **mámo** 'mother', **karóoyo** 'with curved horns'.

—IE suffix **-ko**, secondary suffix, forming adjectives : Ved **síndhu-ka-** 'from Sindh', Gk **Libu-kós** 'Libyan' (Fortson 121) : 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 **phúk** 'a small speck of any substance, a

particle', **phúko** adj. 'small, tiny' (B 334) < IE ***pau-kos** 'little, few; small'.

—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, found also in Germanic and Thracian (for the latter, see Illyes 1988: 212): OHG **diut-isc** 'pertaining to the (common people)' > Grm **Deutsch** 'German', OChSl **rŭm-iskŭ** 'Roman' (Fortson 121) : Bur suffixes **-iski**, Ng **-áaski**, also **-ki** (B I 249) with same function: **Burúsin** 'Burusho' : **Burúaski** (B 491), **hir** 'man', **hiríski**, Ys **huríski** 'of men, men's', also Bur **-sk**, 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 **ġén** 'thief' < **ġé-** Ys 'steal' (B 175) under one interpretation perhaps also **-an** : Bur **dúuman** 'pile, heap' (B 127) < —IE ***dhoh₁-mo-** 'pile'.

—IE adjectival compound suffix **-enko-**, **-ŋko-** > Bur **-um** (main adj. suffix), derived historically by Berger < **-un** > e.g. **burúm** 'white', **daġánum** 'thick' (B I: 5.1), also used as a participial ending (see 8.2.3.2).

—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', **paġaálo** 'blacksmith' from **paġ** **-t-** 'to hammer', **nams-iílo** 'greedy' < **nams** 'greed' (B 210, 19.24), **karéelo** 'wether, ram' : **káru** 'male ibex' (suffix found also in Shina).

—IE **-to** also **-eto-**, **-oto-**, an 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' > **durgas-úuto** 'lean' (B I: 210, 19.24).

8.1.3. Numerals

For the full account of the correlation of the Burushaski numerals with Indo-European, refer to Čašule

(2009a).

Number 1.

—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) : Bur Ys **hen**, Hz Ng **hin** *h*, **han** *xy*, Ys **hek**, Hz Ng **hik** *z* ‘one’ (B 199). Berger (B 198) correlates **hik**, **hek** with IA (T 2462), i.e. with **hekh** ‘one’ Kohistāni dialect of Shina (with an ‘emphatic’ **h-**) (Berger 1992: 245)¹⁴, from OInd **éka** ‘one’, but considers the forms in **-n** autochthonous. Thus: ***h₁e/i-no-** > Bur **hen** : **hin** and ***h₁ei-no-** (or ***h₁oi-no**) > Bur **han**. Also the Bur postp. indef. article **-an**, Ys **-en** *h*, **-an** *xy* (B 18).

—IE ***sem-s** ~ ***sem** ~ ***sm-ih_a-** ‘united as one, one together’ (Luján Martínez 1996, for ***sem-** : 106-108, 126-137) : Bur **-chámanum** (L **-samanum**) (B 73) Hz Ng ‘first-born (son, daughter, young animal)’ (in Ys without aspiration, in Sh **ćamiáako**). Berger segments it as ? + **manúm**. We propose a segmentation **-chám** + **manúm**. The Burushaski form would derive from a zero-grade form ***sp-** and in Bur **p-** > **-um**, **-am**.

Burushaski also has **sum** ‘(of animals) female’ (B 384) and **sumán** ‘(of animals) male’ (B 385) and the first component in **súmphalikis** ‘young female sheep’ (B 385) which parallels the semantic development from the above IE stem in Slavic, i.e. from PSI ***samũ** ‘alone’ we have Russ, Cz **samec**, Pl **samiec** ‘the male animal’, and Russ **samka**, Pl **samica**, Cz **samice** ‘the female animal’ (Buck 139-140).

—IE ***per-** ~ **pro-** (in derivatives) ‘first’, esp. the formations in Italic, Germanic and Baltic with the suffix **-mo-** as in Lat **prīmus** ‘first’, OE **frum** ‘primal, original, first’, **fruma** ‘origin’, Goth **fruma** ~ **frumists** ‘first’, Lith **pirmas** ‘first’ (M-A 399) : Bur **púrme** ‘beforehand, before the time’ (B 318).

Number 2.

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

¹⁴Alternation of **h-** forms with non- **h-** forms for ‘one’ is also found in various forms of Panjábī (Bashir p.c).

202). -t- would be < 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 2008: 171-173).

Number 4.

—Bur **wáto** *hxy*, **wálti**, **wal-** (in Ys **wálte**) *z* ‘four’, also ‘a couple of, a pair of’ (B 463) (L 369, with **-ā-**). It consists of **w-** prefixed to the form of number 2. The first component **w-** < IE ***wi-** ‘apart, in half’ (hence ‘two’), the first component in ***wikṛti-** ‘twenty’ (Wat 101). Thus: ***wi-alto** and by assimilation **wáto** (the length noted by Lorimer could actually indicate compensatory lengthening).

There is another possible explanation of ***w-**, from IE ***mbhi**, also ***bhi-**, ***ambhō(u)** ‘from both sides, around’ (IEW 34-35). Note that we have segmented the component **-ambo** also in Bur **altámbo** etc. ‘eight’ (B 16) and possibly in Bur **baskí** ‘two’ (limited in use) (B 42). Berger (2008: 79) proposes a protoform for **wáto** < ***u-(w)áto** which we would trace < ***ubalto**, the latter correlatable with OInd **ubhāu** ‘both’, Av **uwa-** ‘same’. For the latter two forms Pokorny suggests a conflation with IE **u-** ‘two’ (IEW 35). A third possibility, if we assume a loss of **d-** as is the case in a small number of Burushaski words, is to derive it from IE ***duoi-** ‘two, group of two’ (M-A 400).

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).

Number 8.

—Bur **altámbo** Ng **althámbo** *hxy*, **altám** *bi* and **altám** *z* ‘eight’ (B 16). Berger indicates that it could be related to **altó** ‘two’ and for the pattern quotes Finn **kahdeksan** ‘eight’ : **kaksi** ‘two’. This implicitly assumes that **-ambo** is a separate (unexplained) morpheme.

If we accept the very probable correlation of the Bur numeral 8 with the numeral 2 - **altó**, the second element **-ambo** can be traced to IE ***ambhō(u)** ‘both’, and **ambhi**

‘around, about’ i.e. we would have a structure **altó** + **ambo**. This gives a transparent semantic structure of ‘two all around’. It would mean that Burushaski had an innovation in the system which was formed with autochthonous IE material. Note here the further possibility of correlating **-ambo** to Pers and Khw **amboh** ‘much, many’ (Bashir p.c.).

Another possibility is that there may have been a conflation of this form with an older Bur form relatable to the basic IE numeral ***oǵtó** ‘eight’ (dual) (M-A 402) under the influence of the Bur numerals 2 and 4 (i.e. ***oǵtó** > ***aktó** > ***altó**). The structure of the Bur numerals 2, 4 and 8 fits well with the proposition that in the reconstructed IE numeral for 8 we may have duplicated forms for lower numbers (M-A 402).

Number 9.

— Bur **huntí**, Ys **hutí z**, **hunćó**, Ys **hućó** *hxy* ‘nine’ (B 205) derives from IE ***h₁néuǵ** ‘nine’, and more specifically from the ordinal form ***h₁néuǵ-(e)tos** ‘ninth’ (M-A 403). Beekes (1995: 216) states that the Greek form **énatos** ‘ninth’ points to a proto-form ***h₁nuǵ-to**.

8.2. Verbal system

The typological similarity of the Bur verbal system with IE was noted first by Morgenstierne (L I:XI) who remarked that the Bur verbal system “resembles to some extent the Latin one”. This assessment was reaffirmed by Tiffou and Pesot (T-P 33-4): “The Burushaski [verbal] system seems comparable with the system of ancient Greek: two aspects, one used in three tenses, the other in two tenses, and a third aspect without any particular tense value.”

We can only touch briefly on some of the verbal forms, which have been restructured and are highly simplified in Burushaski.

8.2.1. Verbal endings

Burushaski personal endings (B I 136-137):

sg.	71.	-a	pl.	-an
	2.	-a		-an
	3. <i>hm</i>	-i		-an
	<i>hf</i>	-o		-an
	<i>x</i>	-i		-ie
	<i>y</i>	-i		-i

There is also a system of forms with an **-m** suffix (Tiffou-Pesot 1989: 39) :

sg.	1.	-a-m	pl.	-a-m-n
	2.	-V-m-a (⁰ m-a)		-V-m-V-n (⁰ m ⁰ n)
	3. <i>hm</i>	-V-m-i (⁰ m-i)		-V-m-V-n (⁰ m ⁰ n)
	etc.			etc.

The **-m** suffix is characteristic also of the optative (B I 155).

sg.1.	amánum	pl.	mimánum
2.	gumánum		mamánum
3. <i>hm</i>	imánum		umánum
<i>hf</i>	mumánum		umánum
<i>x</i>	imánum		umánum
<i>y</i>	—		—

Burushaski also has an optative in **-áa** (B Ibid), e.g. **et-áa** (same in all forms), **man-áa** (same in all forms).

Berger (B I: 163) indicates that the imperative suffix **-a** is probably a variant of the optative suffix above.

Indo-European endings: The Burushaski verbal endings correspond with the IE middle endings of the present and aorist system (Szemerényi 239). The fact that Burushaski has a biactantial agreement pattern (absolutive and ergative), perhaps explains why precisely the middle endings (since the subject can be an affectee or an actant) would have been retained and their distribution expanded.

IE Primary Middle Endings

1. **-ai/-mai**
2. **-soi**
3. **-toi**
4. **-medha** (\bar{a} ?)

IE Secondary Middle Endings

1. **\bar{a} / $\bar{m}\bar{a}$**
2. **-so**
3. **-to**
4. **-medha** (\bar{a} ?)

- | | |
|-----------------|--------------|
| 5. -dhwe | -dhwe |
| 6. -ntoi | -nto |

The IE primary endings were used in the indicative of the present tense, the secondary were used in the indicative of the past tense, in the optative and the imperative, insofar as the latter had no specific endings (Beekes 226).

We propose that Bur generalised the ending of the first person sg. in the singular, with **-i** in the third person perhaps a remnant of the primary endings. We would have had an intermediate stage:

-ā /-mā / -sa /-ta then generalised as **> -ā /-a, -mā / -ma**

In this respect Edel'man's (1997: 207) careful analysis of the phonological make up of the case endings and the other grammatical endings in Burushaski is very pertinent — she notes that the severe restrictions in the consonantism of the clitics and the affixes are of a systemic character, which would explain in this case the loss of the consonants at the morpheme boundary in the verbal endings.

In the plural, the 3 p. pl. would have been generalised for all persons after a simplification of the consonant cluster **-nt- : -nto > -n** (and/or a conflation with the 3. p. pl active secondary ending **-nt**) (Szemerényi 234).

For the processes of levelling in these forms, Gothic follows a very similar pattern of simplification in the middle endings (Szemerényi 238):

- | | |
|---------------|--------------------|
| 1. -da | Pl. 1. -nda |
| 2. -za | 2. -nda |
| 3. -da | 3. -nda |

The above reconstruction is supported by the fact that the Burushaski optative endings **-m** and **-áa** are the same as the singular personal endings, thus also obtaining in Burushaski a system which functions the same as the secondary endings of the middle voice in IE (i.e. for the past tense, optative and imperative — the present tense in Burushaski is a compound tense).

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-** ‘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’, 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) (refer to footnote 7).

8.2.2. Verbal affixes

8.2.2.1. Verbal prefixes

—IE **-s-** mobile in verbs : Bur **-s-** verbal 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’ (Willson 33) (B 108), and the **d-** in **dakhíl** ‘like this, thus’, an alternative form of **akhíl** ‘same’ (B 110) (see point 5.2.2). (For comprehensive analyses of the Burushaski **d-**prefix, see Tiffou 1993, and esp. Tikkanen 1999a, and Bashir 2002).

—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 with a purely

perfectivizing function (see Richardson 2007: 53): e.g. Mcd **pravi** 'makes, does' : **napravi** 'complete / finish making'], 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).

8.2.2.2. Verbal suffixes

—IE **-jo-** formations, the most important and productive present suffix of late IE.

—Bur present stem involves yodation or palatalisation of the consonants of the past tense stem (with a formative ***-y-**, see Morgenstierne, (L: I.XX) who indicates this possibility, whereby we obtain the following morphological alternations: **c : ć**, **s : ś**, **n : y**, **t : ć**, **l : lj**, **k : ś** (Edel'man-Klimov 1970: 30, 60-61).

—IE ***-n-** and ***-nu-**, a verbal suffix marking present tense, usually transitive, as in ***mi-nu-** 'to reduce', and which "derives from what was originally a nasal infix **-n-** to roots ending in **-u-**" (Wat 59). Szemerényi (Ibid: 271) indicates that originally only **-n-** or **-ne-** was the formative element and developed into **-nā-** and **-neu-** and "came increasingly to be used as unitary suffixes, as in Lat **asper-nā-ri**, **conster-nā-ri**, OInd **badh-nā-ti** 'binds', also as **-ano-**" (also Kurylowicz, apud Szemerényi Ibid: 272).

—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'; **-qhól-** : **-qhólan-** (L **-qhólin-**) 'to hurt'; Ys **a-úl-** 'cannot' : Ng **ulán-**, **ilán-** 'be able to' (B indicates that the older form of the suffix would have been **-en-**, as in Ys **a-xát-en-** 'not to say') (B I:212). Perhaps the facultative nature of the Bur suffix points to its original properties of an infix (see also the analysis of **d-ńciras**, **čhindáas** (Čašule 1998: 47, 48).

—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 Tocharian B it developed a causative sense : apparently all from a basic iterative-durative sense (iterative-intensive - Ramat; causative-intensive - Couvreur,

both authors apud Szemerényi 273-4.).

—Bur **-eés** [for the change **-sk-** > **-ks-** > **ś** in Burushaski see (Čašule 1998: 65 and (Čašule 2003a: 3.2.4.)] 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), **aġat-eš -mán-** ‘to be ashamed’ from **aġáto** ‘one who is ashamed’ (B I: 211). The forms with this suffix are most productive in the compound verbal constructions, where the abstract noun is not used independently: **darés- ġ-t-** ‘to endure, hold out’ (LYs 89) (BYs 141), **sarkumeés ġ-t-** Ng ‘to get ready, to put s-thing in order’ (analysed by B as ? + **gumeés ġ-t-** ‘to embellish’ (B 376), **bandeés ġ-t-** ‘to bind’ (B 376), **sateés ġ-t-** ‘to bring in order’ (B 376), Bur **halés ġ-t-** ‘to raise, rear, nourish’ (BYs 150) (< IE ***h_ael-** ‘grow’ (pres. ***h_aéle/o-**) ‘grow, nourish’ (M-A 248). In most cases there is no basic form to which the “abstract nouns” can be traced.

8.2.3. Non-finite verbal forms

8.2.3.1. 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).

8.2.3.2. Participles and gerunds

—IE deverbative-adjectival ending ***-no** (> participle in Sl) : Bur past (absolutive) 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 ***sie/o** or ***si** (e.g. Lat **laccio**) : Bur gerund II in **-ś, -V-ś** (E-K 1970:70) used with a desiderative meaning (**śi** > **ś**).

—IE adjectival compound suffix **-enko-**, **-ŋko-** > **-um** (the main adj. suffix in Bur), derived historically by Berger from **-uñ** > e.g. **burúm** ‘white’, **daġánum** ‘thick’ (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).

8.3. Adverbs

Most of the Burushaski primary adverbs (B I: 92-94) are of Indo-European origin (for demonstrative adverbs, refer to Section 4.)

—IE ***dhāl-** ‘to sprout, to bloom’ (> ‘flourish, rise, grow’) : Bur **dal** ‘up’, **dal -t-** ‘take up, send up’ and **daltás** ‘good, fine’, sem. as Hitt **talles** ‘be favourable’ (B 112).

—IE ***h₁eti** ‘in addition’ (> ‘over, moreover, again’) (M-A 215) : Bur **-yáte** ‘on, upon, up, above’, **yát** ‘up, above, on top; (adj) upper, further, later, again’ (in Bur from ***-i-eti-s**) (B 475).

—IE ***h₂ol-** ‘beyond; from that side’ (Wat 2-3) or ***h₂élios** ‘other’: Bur **hóle, hólo** ‘out, out of’ and **hólum** ‘outside, other, foreign, strange’ (B 201-202).

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

—IE ***pelh₁-** or ***plh₁-**, ‘in derivatives referring to abundance and multitude’ (Gk **polús** ‘much, many’ (Wat 64): Bur **pháalis, pháalisa** ‘a lot of, in abundance’ (B 320).

—IE ***per-** ~ **pro-** (in derivatives) ‘first’, esp. the formations with the suffix **-mo-** : Bur **púrme** ‘beforehand, before the time’ (B 318).

Comments on Čašule's "Correlation of the Burushaski Pronominal System with Indo-European"

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As I have indicated before regarding Čašule's earlier work, very many of the comparisons appear to me to be plausible and accord well with the degree of semantic similarity that we might expect from languages once related after a considerable number of millennia. For example, Čašule's list of comparisons such as IE **bhuǵos* 'buck': Bur *buǵhéni* 'goat hair'; IE **bhruh_xs* 'eyebrow': Bur *bur* 'a single hair'; IE **meug-* 'slimy, slippery': Bur *-mús* 'snot', etc are all very reasonable comparisons and there are a large number of these. Among the more significant would be IE **ǵn̥-* 'beget, bear': Bur *ǵunó-* 'seed, sperm' (before satemization has spread too far along); IE *ǵ^wén-(i)-* 'woman': Bur *ǵéniš* 'queen'; IE **ǵ^when-* 'strike, smite, kill': Bur *-ǵán-* 'become wounded'; **dhē-k* 'do, make, put': Bur *doók* man 'put, set down'; IE *k^we* 'and': Bur *ke* 'also, too, and'; IE **ǵ^(w)hrēi-* 'smear, scratch': Bur *ǵirmín-* 'to write'; IE **kérəuos* 'horned': Bur *karéelo* 'ram'; IE **keu-* 'light, burn': Bur *du-úikikin-* '(of fire) to become lit', and others. One would also wish to emphasize those comparisons that indicate a Burushaski retention of the various PIE laryngeals. On occasion, I suspect that we might be dealing with an ancient loan, e.g., IE **h₂óuis* 'sheep': Bur *huyés* 'small cattle' (where chronology matters here). In some cases the comparisons suggest rather ingenious etymologies, e.g., his proposal that the ethnonym *Burushaski* is derived from IE **uer* 'high-raised spot': Bur *buuri* 'crest of hill', hence 'highlanders'. Some comparisons, on the other hand, I would suggest are rather doubtful, e.g., IE **mel-* 'dull or brownish black': Bur *multan* 'blood'. In some instances a cognate set for IE cannot be ascribed to the proto-language, e.g., IE **bushk*

'bush, thicket': Bur *musk* 'forest, thicket'. Is there some confusion in **w* and **Hur*, with Bur **u-* > **w/b/m-* and also the absence of IE **b*? So although I may credit somewhat less than the over 500 comparisons that Časule cites, there is still a very significant number of cognates that look pretty certain and support some form of genetic relationship between Indo-European and Burushaski or would require an agreed refutation.

As to the nature of the relationship, Časule cites my comments from 2009. At that time I emphasized that the relations were *at bottom* with Indo-European rather than reflective of a much later derivation from a branch, particularly Balkan or otherwise, of Indo-European. Since then I am even more positive of the deep antiquity of any proposed relationship, especially suggested by the well fitted four laryngeal reflexes. From the author's conclusions it appears he still entertains the idea that Burushaski is derived from a Northwest Indo-European or Balkan branch and I would be very interested in his explanation of how this might be accounted for in historical terms. Remember, when we consider IE and NWIE as a whole we realize (increasingly not forgetting Tocharian) how many archaisms we owe to NWIE (cf. 1st pers. pron.) and that may explain why there is a suggestion of the Balkans with regard to some things.

Comments on Ilija Čašule's "Correlation of the Burushaski Pronominal System with Indo-European and Phonological and Grammatical Evidence for a Genetic Relationship"

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In our previous articles (Bengtson 2000; Bengtson & Blažek 2011), which Professor Čašule (henceforth "Č") has not cited in his references, we have addressed in detail Č's hypothesis that Burushaski (Bur) is genetically related to Indo-European. The most recent of these, in particular, devotes some three dozen pages to this critique, including phonology, grammar, and lexicon.

At this juncture we can only very briefly summarize the evidence pointing to an alternative hypothesis, the Sino-Caucasian origin of Bur.¹

In phonology Bur stands apart from Proto-IE, and from most IE languages, in several ways: the existence of a uvular series of consonants /q : qh : ġ/, opposed to the velar series /k : kh : g/; a trinary contrast of sibilants and sibilant affricates /s : š : ʃ/ and /c : č : ʧ/;² and the peculiar

¹The Sino-Caucasian hypothesis is relatively young, and still controversial. However, it would be fair to say that few historical linguists are familiar with much of the evidence or with recent works on the subject. There is now a comparative phonology (Starostin 2005a), a comparative glossary (Starostin 2005b), and the beginning of a comparative grammar (Bengtson 2008).

²Some IE languages in the Greater Indian area (*e.g.* Sanskrit, Pashto) have this trinary contrast secondarily (probably from contact with Burushic languages), but outside of that area, and in Proto-Indo-European, the trinary contrast is unknown.

phoneme /y/ ("dotted y").³ All of these distinctive features are ignored by Č, who is unable to relate them to the phonology of PIE. In our 2011 article we discuss these features in detail and propose Sino-Caucasian origins for them.

In morphology Bur is again far removed from Proto-Indo-European, both in typology and in grammatical morphemes. Nouns are classified into four classes and some of them (about 150) are bound morphemes that require prefixes marking the possessor's person and class, e.g. *Yasin Bur a-yék* 'my name', *gu-yék* 'thy name', and so on. (The same prefixes are used in the verbal template.) Noun plurals are formed with 70 different plural suffixes. The Bur verb has a templatic morphology with as many as four prefix positions, including pronominal and valence-changing morphemes preceding the verb stem. All of these features are alien to IE languages but are typical of Sino-Caucasian languages.

The Bur personal pronouns are suppletive, for example the second-person singular (2ps) 'thou' pronoun,⁴ for which Bur has the direct stem *un*,⁵ opposed to the oblique stem *gu*.⁶ As Č admits, "[t]he status of this pronoun in regard to Indo-European [**tuh_x*] is complex and tenuous, and requires extensive argumentation and further analysis." On the other hand the comparison of the Bur suppletive forms *un* / *gu*- with the corresponding forms in some Sino-Caucasian languages is relatively straightforward, e.g. Khinalug (Caucasian) *wī* 'thou' (nom.) / *oχ* '(to) thee' (dat.);⁷ or Ket *ū* 'thou' (nom.) / *ūk*, *uk*

³The precise quality of /y/ is elusive; according to reports its allomorphs range from retroflex glide to a retroflex fricative or sibilant, i.e. something like [y ~ ɣ ~ ʃ ~ ʒ].

⁴For the sake of semantic clarity the archaic pronouns 'thou/thee/they' are employed here to gloss 2ps forms.

⁵With variants *uŋ* ~ *um*.

⁶With variants *gū*-, *gó(o)*-, *kó(o)*-.

⁷Other East Caucasian languages have leveled the suppletion, but retain either the U(N) or GU form of 'thou', e.g. Archi and Udi *un* 'thou' (identical in form with Bur *un*): Chechen *o*, Dargi *u*, Shinaz Rutul *ǰu*. In Tsakhur the direct forms *wu* and *ǰu* are in free variation, with genitive forms of the GU type. West Caucasian has generalized the U(N) type as **wa* 'thou' (Nikolaev & Starostin 1994, pp. 483-484, 1014-1015).

‘thy’ (attrib.), *ku-* ‘2nd pers. sg. verbal prefix’).

Indeed, the Ket 2ps verbal prefix *ku-* (e.g., *bu u da-ku-tōŋ* ‘she sees thee’) is phonetically and semantically homologous with the Bur 2ps verbal prefix *gu-/ku-*⁸ (e.g. *gu-yátis nu-kóo-skarç* ‘cutting off thy head’⁹). This precise paradigmatic parallel alone should spur any curious linguist to investigate the possibility of a genetic relationship between Bur and Ket (and by extension the Yeniseian language family). After extensive study of this question we can say that a significant amount of other morphological and lexical evidence supporting this relationship (see Bengtson 2010, Starostin 2010a). G. van Driem (2001) agrees with this linkage and has called it “Karasuk,” associating the linguistic group with the synonymous archaeological culture.¹⁰

For example, consider the Bur word for ‘name’ and its morphology. The meaning ‘name’ is universally acknowledged to be one of the most basic and stable of all. It is ranked 10th in G. Starostin’s (2010b) inventory of the most stable words. The Bur word for ‘name’ is **yék* (Yasin – *yék*, Hunza & Nager – *ík*),¹¹ which is obviously unrelated to the common IE word for ‘name’, **(e)nomen-*, a word which is retained to this day by almost all IE languages. But if we look to the northeast, to the same Yeniseian languages that have the suppletive 2ps pronoun and 2ps affix *ku-* described above, we find a word for ‘name’ that is reconstructed as **[?]ic* (attested as Ket *i*, Yug *i*, Kott *ix*, *ix*, Pumpokol *i*). In addition to the apparent cognation of these noun roots, there are also morphological similarities in the formation of plurals with a velar nasal suffix: Bur Yasin – *yékiŋ*, *-yékičičŋ*, Hunza & Nager – *íkičičŋ* ‘names’¹²: cf.

⁸With variants *gú-*, *kú-*, *gó-*, *kó-*, *góo-*, *kóo-*, depending upon tonal properties of the noun or verb.

⁹Lit. ‘2PS-head CONVERB-2PS-cut’, i.e. ‘thy head thy cutting (off)’, with both the noun stem and verb stem marked for 2ps. Example from Anderson (ms.).

¹⁰While we agree with van Driem’s linguistic link, we think it is far to old to be the language of the Karasuk culture.

¹¹The hyphen informs like *-yék* and *-ík* indicates that these are bound morphemes that always require a possessive prefix, e.g. Yasin Bur *a-yék* ‘my name’, *gu-yék* ‘thy name’, etc.

¹²The *-ičičŋ* forms are a kind of reduplication, not uncommon in Bur

Ket, Yug ε^{η} , Kott $ik\eta$ / $ek\eta$ / $eäk\eta$ 'names'.

Indeed when we investigate further we find that within the most basic and stable words Bur and IE have precious little in common. Thus for 'to eat' (25th in stability) Bur has nothing similar to the common IE **ed-* 'eat' attested in most IE subgroups, but rather the root variants **si* / **ši* / **šu*, the use of which depends upon the class and number of the object, again an utterly non-IE characteristic.¹³ Yeniseian, again, has a similar root, **sī-* 'to eat'. And for 'to give' there is no trace of the common IE **dō(w)-* 'to give', but instead Bur uses *three different roots*, again, as with 'to eat', determined by the class of the object: (1) **-u-* 'to give'; (2) **-čhi-* 'to give'; (3) **-ğun-* 'to give'.¹⁴ Sino-Caucasian parallels have been proposed for these three Bur roots (Bengtson & Blažek 2011: 57).

In the final analysis the best criticism of a hypothesis is to offer a more satisfactory alternative hypothesis. Our alternative hypothesis did not originate with us, but is a refined version of linguistic linkages proposed throughout the twentieth century by various scholars, the most prominent of which were K. Bouda, A. P. Dulson, O. G. Tailleux, and V. N. Toporov. These early-to-mid twentieth century theories linked Bur with the Yeniseian languages, and sometimes also the (North) Caucasian languages and Basque.¹⁵

Within the past three decades these linkages have been given a much firmer theoretical basis, including phonetic correspondences, especially by Sergei A. Starostin. Recent lexicostatistical studies conducted by George Starostin of the Evolution of Human Language Project confirm the lexical affinity among the four language

affixes.

¹³ *I.e.*, **ši* (with class I, II, III singular object) / **šu* (with class I, II, III plural object) / **si* (with class IV object).

¹⁴ *I.e.*, (1) **-u-* 'to give' (only with class I, II, III object), (2) **-čhi-* 'to give' (only with class IV singular object); (3) **-ğun-* 'to give' (only with class IV plural object).

¹⁵ Some more remote linkages have also been proposed with the Sino-Tibetan or Tibeto-Burman family of Asia, and with the Na-Dene family of North America. Taken together this proposed macro-family is called "Sino-Caucasian" or "Dene-Caucasian."

groups mentioned in the previous paragraphs,¹⁶ and also find that Burushaski and Yeniseian form a subfamily together, whose root is dated approximately to 6,570 BCE.¹⁷

Professor Čašule has presented a mass of interesting data. In our opinion the resemblances between Bur and IE can be accounted for by (a) loanwords (in both directions, as well as from other languages), (b) *Wanderwörter*, (c) chance resemblances, and (d) a small amount of archaic residue from a very old putative ancestor that some linguists call “Borean.”¹⁸ When these layers are peeled away from Burushaski we are left with a core that is incompatible with IE origin.

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¹⁶ *I.e.*, Basque, (North) Caucasian, Burushic, and Yeniseian. Sino-Tibetan (Tibeto-Burman) and Na-Dene are apparently related at a greater remove.

¹⁷ This tree has been published by Kassian (2009: 424).

¹⁸ As examples of this last category we suggest Bur **s* (Yasin *-ís*, Hunza, Nager *-sk*) ‘human child, animal’s young’ vis-a-vis IE (**suH-nu-*, **suH-yo*

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Comments on Çasule's "Correlation of the Burushaski Pronominal System with Indo-European"

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This is a difficult paper to address as I don't see anything like proof in the collection of data, but I don't see any obvious errors. What Çasule says at the beginning concerning earlier attempts, that were both unsystematic and relied on random similarities, can also be applied to some of his own work. Sometimes it seems like he has a valid point that needs further work, but other times it looks like chasing after some will o' the wisp.

I do find it odd that within Indo-European, the laryngeals have varied development, but in Burushaski they all merge as an undifferentiated [h], especially when the majority of scholars have held that the first e-coloring laryngeal was a glottal stop; why did that become an [h]? Any real relationship with IE should have multiple correspondences with multiple laryngeals.

Another problem is that some of the comparisons are semantically flawed. For example, Hitt. *ariki* means 'he mounts' but only as a sexual euphemism; it really means 'have anal intercourse' so the comparison with Bur. *horgo* 'ascent, slope' is weak; the IE root for that concept was **steigh-*.

I also find the claim that the three IE tectals collapsed into a single series in Burushaski peculiar for two reasons. The differences were fundamental to IE (even Tocharian seems to have some traces of difference) and the claim that Burushaski most closely matches some Palaeo-Balkan language is then at odds with the fact that Albanian is the one IE language that most clearly preserves the three-way contrast of the tectals.

Similarly, I find the explanation of how the presumed IE three-way gender contrast became the Burushaski four-way noun class system. If that did happen, there needs to be a more clearly articulated explanation of why each of the four Burushaski noun classes is identified with a distinct demonstrative stem, while IE itself uses all of its demonstratives in each of the three genders. I would expect the ancestral language to have had some type of noun classes that in some manner generate the IE gender system and can explain the Burushaski noun classes. Moreover, the IE peculiarity that the feminine singular matches the neuter plural (the Avar nominal markers show just this peculiar glitch) should be apparent if Burushaski is related.

Here I fall back on Meillet's dictum, that relationships are proven not by shared items but by shared anomalies, and I don't see enough of these in the present work to convince me.

On the other hand, I obviously accept the notion that Burushaski has borrowed from IE; the degree to which this has happened may be hard to sort out, and I wouldn't want to claim that a relationship is not provable. Part of the problem is that Çasule seems to drift in and out of a collateral relationship (Burushaski and IE are descended from a common ancestor), a loan-relationship (Burushaski has borrowed from some early IE language) and outright IE membership.

If there has been an element of IE creolization, it is possible that there are layers of different chronological and cultural contact giving nuanced ranges of cognate sets much like NHG *Hahn*, NE *hen* < PIE **qan-* 'sing' beside NE *cant*, *incantation* < Lat. *cantare* < IE **qan-*, beside NE *chant* < OFr. *chanter* < Lat. *cantare* < IE **qan-*, beside NE *chanteuse* < Fr. *chanteuse* < OFr. *chanter* < Lat. *cantare* < IE **qan-*. To make such a determination Çasule would need to make judgments about the semantic domains and about the centrality of the vocabulary, and I don't see that that work has been undertaken here, but it could be.

Correlation of the Burushaski Pronominal System with Indo-European and Phonological and Grammatical Evidence for a Genetic Relationship

Response to Discussants

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In their discussion, Bengtson and Blažek (henceforth BB) refer to their [2011] article which they say “devotes some three dozen pages to this critique [of my hypothesis], including phonology, grammar and lexicon”.

The title of the article “On the Burushaski-Indo-European hypothesis by I. Čašule” (and their statement) is however misleading, because it implies that it is entirely on my hypothesis on the Indo-European origin of Burushaski. A closer look nevertheless, reveals that 90% of the article is about Bengtson and Blažek’s proposal and related information (from pp. 27-58 there are only a few brief mentions of my work).

The authors elaborate their hypothesis on the Dene-Caucasian status of Burushaski, which they consider essentially a language isolate within this macrofamily “that also includes Na-Dene, Sino-Tibetan, North Caucasian, Basque and Yeniseian languages” (BB 25). Theirs is a rather ambitious and daunting task which requires evidence not only of the existence of this macrofamily but also of coherent correspondences between each and every one of its members at all levels, and especially at the grammatical. In order to be accepted, it ultimately requires approval from scholars studying all of these language groups.

In order to comment on their hypothesis or assess its validity, I would need to be knowledgeable about at least

some of these languages and groups, which is not the case. For this reason I can only write about some factual errors and possible misrepresentations of my analysis, which is mistakenly stated as the topic of the article. I just note some of the major issues.

Even though the authors indicate that their article was originally written “around mid-2007”, they have not included or mentioned (even if only in the bibliography) most of my work, in spite of saying that my scholarship spreads “over the last two decades” (BB 25). Thus, for example, in Čašule (2003b) I analyze the Indo-European origin of some 75 Burushaski names of body parts, and it would have been reasonable to expect that if there was criticism about the lack of examples from this semantic field in my work (BB 55-57), this study should have been consulted or at least noted.

In the area of phonology, BB state that I have neglected the uvular or retroflex consonants in my analysis. I have written in some detail about the internal phonological variation and alternation in Burushaski. Note for example the alternation **k** : **g**, also **k** > **g**; extensive variation of **g** and **ġ** (Čašule 2010: 14-15); dialectal alternation **q** : **ġ** in intervocalic position (Varma (1941: 141) and Morgenstierne (1945); alternations of **k**, and **k** : **q**, change **k** > **q** = (in loanwords), **k** : **kh**, **k** < **kh**, **k** > **kh**, **k** > **qh** (in loanwords), **kh** > : **qh**, **q** : **qh** (Čašule 2010: 14-18, with numerous examples). Retroflexion in Burushaski is discussed in Čašule (2003a: 26-28).

The same goes about the change **w-** > **b-** mentioned and exemplified in the only article of mine discussed by BB (Čašule 2003a: 33, four examples) and expanded significantly in Čašule (2010: 6-8, nineteen examples). BB cite Bur **waq** ‘open the mouth, talk’ as a contradictory counterexample, but it turns out to be a loanword from Indo-Aryan, e.g., OInd **vākti** ‘speaks, says’, also found in Shina (Berger 1998: 464), and loanwords from Indo-Aryan do not undergo this historical change.

Another indicative example is BB’s (26) discussion of Bur Yasin **bérkat** ‘summit, peak, crest, height’ (Berger 1974: 133) [which I derive from IE ***bherġh-to** ‘high’] where they state that the presence of **k** instead of **g** is an

inconsistency. Yet in the newest Berger reference they have consulted (Berger 2008: 4.17), for **-rk-** < **-rg-**, he states that after **r** media are (generally) voiceless, which clarifies this example.

In some cases, BB omit crucial information, as in their statement about “semantically tortuous” comparisons, where they give the example of the correlation between IE ***h₂erǵ-nt-om** ‘white metal, silver’ and Bur **hargín** ‘dragon which comes into being from a snake’ (Berger 1998: 193), without noting that I am actually comparing the Burushaski word with the Phrygian gloss **argwitas** ‘dragon, Lamia’, in Hesychius (Neroznak 1978: 136), derived from the Indo-European stem above, in what is an exact correspondence (see Čašule 2004), especially as in antiquity a Lamia was a mythological woman-snake.¹

The lack of semantic latitude in my comparisons, in addition to the consistent phonological correspondences, is actually one of their major noted strengths (see Alonso de la Fuente 2006, who provides a balanced assessment of the same article [Čašule (2003a)] analysed by BB).

Considering that the basis for their critique was Čašule (2003a), which is an extensive study on the precise correspondence between the Indo-European and Burushaski laryngeals (together with the coloring effects on the adjacent vowels), it is surprising that nothing has been said on this important question. This JIES article also has a ten page addendum (Ibid 69-79) which gives an outline of the grammatical correspondences between Burushaski and Indo-European, which BB address very selectively – for example the demonstrative system is not mentioned, the adjectives, the case system, the verbal non-finite forms, etc. I have expanded significantly some of these points in subsequent articles. For example, the numerals only receive a brief mention in Čašule (2003a), but have been the subject of an entire article in Čašule (2009b).

One of the major weaknesses of Bengtson and

¹Note also in Burushaski the plant name **hargál** ‘*Convolvulus arvensis* Linn. Ackerwinde’ (B 195), Eng *field bindweed*, with trumpet-shaped *white* or *pale* pink flowers and *light brown* fruit.” It is most likely that it also contains the same Indo-European stem ***h₂erǵ-** ‘white’ + a suffix ***a-lo**.

Blažek's proposal is the lack of grammatical correspondences. The forms for the Bur 1p and 2p sg pronouns stand in isolation (without the case endings) and being unsystematic they can be explained as chance correspondences. Their reconstruction of the Bur 2p sg pronoun is unsatisfactory, as they posit the form **un**² as basic, whereas the basic form is **uñ** > **um**.

In other cases, as in the discussion of the “-It-” group which in Burushaski means ‘other; two; second’ and as a verbal prefix ‘to X in two’ (e.g. ‘to tear/cut in two’, e.g., Bur **du-ltúr-** ‘to fall apart, cut into pieces’) and duality in general, BB make inconsistent assumptions about the Burushaski historical developments and treat it wrongly as a phoneme: “internal Burushaski alternation of the initial dental stop **t-** with the medial clusters **-It-**” (Bengtson and Blažek 2011: 36³). Even in examples like Bur **haralt** ‘rain’ (< **har** + **alt**) where we have a rare use of **-alt-** as a suffix, it means ‘other type of water/liquid’.

Some of their correspondences involve roots of one or two phonemes and these are difficult to analyse meaningfully, e.g., like Bur **-ú-** ‘give’ (for the possibility that it could be from IE ***dō-u-**, ***du-** ‘give’, see footnote 9 in my main discussion article). For some examples, like the Burushaski word for ‘name’, singled out by BB, we have proposed clear IE etymologies: Bur **-ík** (Cunn “**goyak**”, Hay “**gúyek**” – the latter < ***gu-yek** ‘your name’, Bur Ys – **yék** ‘name; good name, good reputation’, **iík dilá** Ng ‘one says, it is said’, **-é ... -ík ét-**, **o os-** ‘...to name, to call, to give a name’ (L 42) (B 211) [**-k** < devoiced **-g** in word final position.] can be derived from IE ***h₁eĝ-** or ***h₁eh₁ĝ-** ‘say’ (IEW 290: ***ēĝ-**) : Lat **aiō** ‘say’, **adāgium** ‘proverb’, **axāre** ‘+/- call by name, give a name to’, Gk **ē** ‘say’, Arm **asem** ‘say’, TochAB **āks-** ‘announce, proclaim, instruct’ (M-A 535 – widespread and old in IE). The Burushaski semantic development is the same as in Latin. For other possibilities of interpretation, see Čašule (2003a: 60-61).

²The use of the asterisk by BB to denote forms with pronominal prefixes, following Lorimer, has been abandoned and BB are advised to use it only for reconstructed forms, in line with Berger's approach.

³In many cases BB (2011: 36-38) unjustifiably reconstruct forms with **It-** which they later consider as a given.

As we have indicated in the past, an important task ahead is to trace the origin of the Burushaski non-core non-Indo-European vocabulary. Perhaps Bengtson and Blažek's work could be a contribution in this direction, given that most of their purported correspondences involve words that are not Indo-European. The links with Caucasian whether within "Nostratic" or not, should be given precedence in this task.⁴

As for the centrality of the semantic fields of the correspondences, note further Paul Friedrich's comments (in a letter to E. Bashir of January 4, 2012): "Čašule's analysis is conclusive. At a more concrete level I was struck by the 30 pastoral terms that are of IE but not II origin. The full correspondence of 32 kinship terms⁵ with IE seems conclusive."

Bengtson and Blažek, but also Martin Huld (in this issue) stress the typological difference between the Burushaski four gender system and Indo-European. Huld conjectures how the Indo-European three-way gender contrast became the Burushaski four-way noun class system. Even though scholars like Matasović (2004: 22 n.6) still state that the four-gender system is not attested in Indo-European, in a recent seminal study 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

⁴As we have hinted in our analysis of the Burushaski shepherd vocabulary (Čašule 2009a: 155, in the case of Bur *ačas* 'sheep or goat' : IE **h₁eiǵs-* 'goat', Proto-Adyghian-Kabardian **ača* 'he-goat').

⁵Friedrich is an expert in Indo-European kinship terminology, e.g. Friedrich (1966).

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, and may be the “anomaly” Huld seeks.

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).

These new findings are very important for the understanding and placement within Indo-European of the Burushaski noun class system, i.e., as an innovation within North-Western Indo-European and not as an archaism.

Addressing Huld’s concerns, we can restate the innovations shared between NW IE and Burushaski. Some of the most compelling evidence comes from the grammatical correspondences, e.g., within the personal pronouns, the Burushaski form for the 1. person plural **mi** < IE ***mes-** corresponds with Balto-Slavic and Armenian, an isogloss that is matched by the full correlation of the Burushaski demonstrative system with the demonstrative system of Balto-Slavic, Armenian and Tocharian as reconstructed by Kortlandt (1983). Within the demonstrative system, Burushaski shares an exceptional trait with Albanian, with the use of **kho-**, **khi-** which is prefixed to the distal forms to derive the proximate demonstratives.

An important Burushaski-Albanian and Slavic commonality can be found also in the numeral system. Morphologically, the endings of the Burushaski numbers 2, 4, 5, (most probably also 6) and 9 can be traced to the Indo-European ordinal numbers with **-to**, in Bur also **-ti** (in the forms used for counting) (the latter perhaps from the Indo-European abstracts in **-ti**), generally the same as in Albanian and Slavic (Čašule 2009b).

Note also the correlation between IE instr. **-mi**, as in Sl **kamenīmi** ‘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).

We should note a highly significant derivational isogloss, namely the Burushaski suffix **-ski** which constitutes a correspondence with Germanic, Slavic and Thracian (see examples [1-3] in Čašule 2010).

These specific grammatical correspondences correlate with a number of Burushaski lexical isoglosses with Slavic and especially with the Albanian and Romanian ancient Balkan substratal lexis (for which, see e.g. Brâncuș (1983), Poghirc (1967), Russu (1967) (1970). In Čašule (2009a), out of the 32 Burushaski autochthonous shepherd terms of (non-Indo-Iranian) Indo-European origin (and with no semantic latitude), 10 correspond closely with the Albanian and Romanian substratal pastoral vocabulary. Quite a large number of the lexical correspondences of Burushaski with IE are confined to North-Western Indo-European.

Returning to Huld’s comments, the laryngeals in Burushaski are in fact strong evidence of a relationship. Even though he finds it odd that the laryngeals merged in Burushaski as “an undifferentiated [h]”, they preserve fully and consistently the coloring of the adjacent vowels. The laryngeal evidence is conclusive.

Huld notes a semantic flaw in one example: Hitt **arki** ‘he mounts’ (in a sexual sense) which we compare with Bur **hurgó**, Ys **horgó** ‘ascent, slope up; uphill’ (B 206). The same example was seen as a strong one by one of the anonymous referees of our article in this issue who said: “He [IČ] equates Bur **hurgó** ‘ascent’ with PIE ***h₄orghei** ‘mounts’. But the PIE word is only ‘mounts’ in the sexual sense (“the bull mounted the cow”). If the Bur-PIE relationship is real, Burushaski departed pre-PIE when the word was still ‘mount’ (in the non-sexual sense) while in PIE itself the word came to denote only the sexual act. (like PIE ***yebh-** ‘enter’ preserved as **yäp-** in Tocharian as ‘enter,’ but in “post-Toch-PIE” only ‘futtuere.’) The semantic latitude evidenced here is rather the exception in our analyses.

I agree with Huld that I have not been unequivocal in my final assessment of the relationship between

Burushaski and Indo-European. This is due to a large extent to the fact that Burushaski is the result of language contact, both involving linguistic borrowing and “imperfect language learning”, which can obscure the nature of the relationship.⁶

Hamp, in support of our evidence, firmly states that there is a relationship of deep antiquity between IE and Burushaski, while at the same time emphasizing that we owe many archaisms to North-West Indo-European, which would explain some of the Burushaski developments. Yet Čašule (2012), which discusses the Macedonian, Balkan and South Slavic (substratal) correspondences with Burushaski (positively reviewed by Hamp), and the shepherd vocabulary and cultural vocabulary point to a Balkan connection. Whatever the status of the relationship of Burushaski with IE, (and even at a deep level it is a close one), the Balkan (and Asia Minor?) localization seems to me clear.

Another firm conclusion is that Burushaski is the result of contact of an Indo-European language with a yet to be identified agglutinative, perhaps also ergative language.

Further more detailed study will clarify whether Burushaski is an old relative of Indo-European, or a member of North-Western Indo-European profoundly transformed by language contact, which is our preferred interpretation. In any case we can say confidently that there is a very strong correlation between Burushaski and Indo-European.

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In Memoriam
Manfred Mayrhofer

(26th September 1926, Linz – 31st October 2011, Vienna)

Manfred Mayrhofer was born on 26th September 1926 in Linz, in the same year as his colleagues from Brno, Aldof Erhart and Antonín Bartoněk, whom he knew well. He studied at a humanistic grammar school which was also attended by other distinguished Indo-Europeanists such as Fritz Schachermeyer, Georg Renatus Solta and Jochem Schindler. During the last three years of his studies, Mayrhofer recalled, students and their teachers had to divide their time between classes and compulsory service in air defence. In 1944, he completed the grammar school with the certificate *Luftwaffenhelfer-Zeugnis*, i.e. with the certificate of being an assistant to the *Luftwaffe*.

At the beginning of 1945, he was detailed as a manual worker to the front in Northern Italy where he was taken captive by the British. He went through several prison camps located in different parts of the Apennine peninsula and in autumn 1945 he returned back to Linz. He lived in the American occupation zone, which meant that he was not allowed to study in Vienna. Therefore, he chose the second largest Austrian city, Graz, where he started his university studies in the winter semester 1945-46. Here he met the Indo-Europeanist Wilhelm Brandenstein, who became his teacher and later his co-author (see 1958a, 1964a). Paul Kretschmer and Nikolaj Trubeckoj were among the teachers of Brandenstein and, therefore, Mayrhofer considered all three of them his instructors.

Due to this intellectual background, he became interested in phonology and on Brandenstein's recommendation he focused on Non-Indo-European languages – more specifically on Semitic languages – which he studied as his second doctoral field. He was conferred a doctor's degree in 1949 for his defence of the dissertation

on Brugmann's Law (1949a). He habilitated in 1951 with a publication on the Dravidian substrate in Sanskrit (1951b). In 1953 he entered the University of Würzburg as a visiting assistant professor; five years later, he was awarded the title of associate professor and finally became a full professor in 1959. In 1963, he was invited to the University of Saarbrücken and since 1966 he represented Vienna Indo-European linguistics, not only until his retirement in 1990, but also for a further 21 years as a prolific professor emeritus.

The most valuable work of Manfred Mayrhofer is indisputably the "Etymological dictionary of Old Indian", which he actually wrote twice. The first version began to appear in individual volumes in 1953 under the title *Kurzgefaßtes etymologisches Wörterbuch des Altindischen / A Concise Sanskrit Etymological Dictionary* (Heidelberg: Winter). In 1956, the first volume was completed, the second followed in 1963, the third with appendix in 1976 and the fourth with register in 1980. In the first two volumes, the author concentrates rather on recording the existing etymologies, and only the third volume represents a significantly higher author's contribution, i.a. due to a consistent inclusion of Iranian material.

Mayrhofer set a high standard for all etymologists focusing on the Indo-European languages that dealt with a large lexical corpus. This was also valid for Mayrhofer alone. He solved his dissatisfaction with the first two volumes in the following way: he began to work on a new dictionary, which met his own criteria of quality. In 1986, a new dictionary, *Etymologisches Wörterbuch des Altindoarischen*, started to be published again in Heidelberg by Winter. The first volume was ready in 1992, the second, which also focused on the corpus of the old language, was finished in 1996. In the third volume, the word stock of later Sanskrit was described and registers were added.

Besides dozens of articles on etymology, it is necessary to mention two substantial Indologic publications by Mayrhofer: the grammar of Pali (1951a) and of Sanskrit (1953a, 1965a, 1978a; English 1972a, Serbian 2002a). Despite their conciseness, they form outstanding introductions into the study of both languages. Mayrhofer's second largest sphere of interest involved

relics of Mitanni-Aryan (1959a,d; 1960c,d; 1964k; 1965b,d,f,g,h; 1966a; 1968g; 1969e; 1972g; 1973d; 1974a; 1982a; 1997a). His third field of interest were Old and marginally also Middle Iranian languages. Apart from the epigraphic Old Persian and Bactrian relics, he concentrated particularly on onomastics and on the interpretation of glosses in foreign languages' literary relics. He mostly focused on Old Persian (1958a; 1964a,d; 1970c,f; 1971c; 1972b,e; 1976e; 1978b,c,f,n; 1979b,c; 1982c; 1985c; 1989b; 1992c), then on Avestan (1977a,b; 1978j,l), Median (1968c,g; 1973f), Scythian (2006a), Bactrian (1962c), and Parthian (1974g). In his subsequent studies, he analyzed Old Iranian onomastics in a broader view (1962a; 1969a,d; 1971a; 1973a,e; 1975a,b,c,e,f; 1978g; 1979h,i; 1981c,d; 1987b; and many onomastic entries in *Encyclopedia Iranica*). The monographic article co-written with W. Eilers, in which they tried to find the solution to the problem of Kurdish beech in the broader context of the Iranian dendronymy (1962b) is exceptionally valuable. Mayrhofer dedicated the introductory article to the compendium of Iranian languages (1989a) to the prehistory of the Iranian languages. In a special study, he summarized the information on the lexicology of the Iranian languages (1991a), and he was also the author of the "Chapter on the Iranian branch of languages" in the French compendium on Indo-European languages (1994b).

The fourth of Mayrhofer's domains was Indo-European historical phonetics and its development in the individual daughter branches. He had studied the problems of Brugmann's Law already in his dissertation and later in a special article (1949a; 1952b). He also wrote the entry on Bartholomae's Law in *Encyclopedia Iranica* (1989b). He focused on Brugmann's interdental spirans in a spate study (1982d). In a number of articles, he analysed reflections of Indo-European laryngeals in individual branches – in Indo-Iranian languages (1981b, 2005a), Greek (1982b), Latin (1987a) and in Indo-European languages in general (2005a). His view of Indo-European historical phonetics was summarized in several synthetic studies (1986a; 1988b,e; 2004a). He published his works over an unbelievable 62 years. His scholarly career was crowned by

a synthesis dealing with the development of Indo-European linguistics from its beginnings until the present day (2009a).

Manfred Mayrhofer secured his place at the Olympus of linguistics already during his lifetime. But if a possible visitor searches there for him in vain, he should not be surprised. For a scholar of Mayrhofer's status – Indo-European and Indo-Iranian linguist *par excellence* – Olympus is far too low and only the Himalayas constitute a sufficiently dignified place for his soul.

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List of abbreviations:

AAHG = *Anzeiger für die Altertumswissenschaft.*

AAnth = *Acta Antiqua Academiae Scientiarum Hungaricae.*

AcOr = *Acta Orientalia.*

AfO = *Archiv für Orientforschung.*

AION-L = *Annali. Istituto Universitario Orientale. Sezione linguistica.*

AlmÖAW = *Almanach der Österreichischen Akademie der Wissenschaften.*

AO = *Archiv Orientální (Oriental Archive).*

AÖAW = *Anzeiger der Österreichischen Akademie der Wissenschaften. Philosophisch-historische Klasse.*

ArchAust = *Archaeologica Austriaca.*

ArchL = *Archivum Linguisticum.*

AsS = *Asiatische Studien.*

- BIK* = *Bulletin. Österreichische Akademie der Wissenschaften. Iranische Kommission.*
BiOr = *Bibliotheca Orientalis.*
BjVF = *Berliner Jahrbuch für Vor- and Frühgeschichte.*
BNF = *Beiträge zur Namenforschung.*
BSOAS = *Bulletin of the School of Oriental and African Studies, University of London.*
CAJ = *Central Asiatic Journal.*
DLZ = *Deutsche Literaturzeitung für Kritik der internationalen Wissenschaft.*
DUZ = *Deutsche Universitätszeitung.*
GRM = *Germanisch-Romanische Monatsschrift.*
HS = *Historische Sprachforschung.*
HZ = *Historische Zeitschrift.*
IBK = *Innsbrucker Beiträge zur Kulturwissenschaft.*
IBS = *Innsbrucker Beiträge zur Sprachwissenschaft.*
IF = *Indogermanische Forschungen.*
IJ = *Indo-Iranian Journal.*
IJ = *Indogermanisches Jahrbuch.*
IL = *Indian Linguistics.*
JAOS = *Journal of the American Oriental Society.*
JbBAW = *Jahrbuch der Bayerischen Akademie der Wissenschaften.*
JbHAW = *Jahrbuch der Heidelberger Akademie der Wissenschaften.*
JbSAW = *Jahrbuch. Sächsische Akademie der Wissenschaften zu Leipzig.*
JCOI = *Journal of the K. R. Cama Oriental Institute*
KZ = *Zeitschrift für vergleichende Sprachforschung.*
Ling = *Linguistica.*
LPosn = *Lingua Posnaniensis.*
MAGW = *Mitteilungen der Anthropologischen Gesellschaft in Wien.*
MLP = *La Monda Lingvo-Problemo.*
MSS = *Münchener Studien zur Sprachwissenschaft.*
NAWG = *Nachrichten von der Akademie der Wissenschaften in Göttingen. Philosophisch-historische Klasse.*
NyK = *Nyelotudományi Közlemények.*
OLZ = *Orientalistische Literaturzeitung.*
Or = *Orientalia. Nova Series.*
PBB = *Beiträge zur Geschichte der deutschen Sprache und Literatur.*
QIGC = *Quaderni dell'Istituto di Glottologie, Università degli studi „G. d'Annunzio“ di Chieti.*
REIE = *Revue des études indo-européennes.*
RPhA = *Revue de Phonétique Appliquée.*
SbHAW = *Sitzungsberichte der Heidelberger Akademie der Wissenschaften. Philosophisch-historische Klasse.*
SbÖAW = *Sitzungsberichte der Österreichischen Akademie der Wissenschaften. Philosophisch-historische Klasse.*
Vir = *Virittäjä.*
Vja = *Voprosy jazykoznanija.*
WS = *Wiener Studien.*
WZKM = *Wiener Zeitschrift für die Kunde des Morgenlandes.*
WZKS = *Wiener Zeitschrift für die Kunde Südasiens und Archiv für indische Philosophie.*

ZDA = Zeitschrift für deutsches Altertum und deutsche Literatur.

ZDMG = Zeitschrift der Deutschen Morgenländischen Gesellschaft.

ZPhon = Zeitschrift für Phonetik und allgemeine Sprachwissenschaft.

ZRPh = Zeitschrift für Romanische Philologie.

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In Memoriam
Nikolay Yakovlevich Merpert
(*26 November 1922 – †29 January 2012)

Nikolay Yakovlevich Merpert, an outstanding representative of the older generation of Russian archeologists, passed away on January 29th, 2012. Selflessly serving the cause of scholarship during more than fifty years, Nikolay Yakovlevich significantly contributed to the study of such global problems as the Indo-European homeland, the transition from hunting-gathering to an agricultural economy, the identification of cattle breeding strategies, the Chalcolithic and Bronze Age of the steppe zone of Eurasia, the interaction of sedentary agricultural societies with mobile pastoralists, and many more. He was awarded official titles such as Distinguished Scientist of the Russian Federation, Corresponding Member of the German Archaeological Institute, Foreign Honorary Member of the Institute of Thracology of the Bulgarian Academy of Sciences. He will be remembered not only as a great scholar but also as a person, who generously shared his knowledge and experience with others with natural goodwill and encyclopedic erudition.

N. Ya. Merpert was born on November 26th 1922 in Moscow into a family of civil servants (his father was an engineer-economist, and his mother was a health care worker). He became interested in archeology and ancient history while still in middle school, and took part in an archaeological expedition for the first time at the age of thirteen. In 1940, after finishing high school, he was drafted into the army. During the most difficult first months of WWII for the USSR, N. Ya. Merpert was fighting on the North-Western Front, where he was wounded four times. His military awards included a number of medals and the second-degree Order of the Great Patriotic War.

In March 1942 N. Ya. Merpert was discharged for disability. He returned to Moscow and was accepted as a

student in the Faculty of History of Moscow State University. In 1942-43 N. Ya. Merpert took part in the excavations of Slavic burial mounds in the Moscow region, while in 1944 he worked on Scythian sites in Nikopolis in the area of Dnepropetrovsk. The main specialization of N. Ya. Merpert in his student years was Classical Archaeology.

In 1945 N. Ya. Merpert graduated with honors from Moscow State University and began his graduate work at the Institute for the History of Material Culture of the Academy of Sciences of the USSR (now the Institute of Archaeology of the Russian Academy of Sciences). He took part in the excavations of Novgorod in 1947, and the first excavations of Genghis Khan's capital at Karakorum in 1948-49. Later N. Ya. became one of the authors of the monograph "Ancient Mongolian towns" (1965). In 1949 he became a staff member of same Institute, where he spent the rest of his working life.

In 1950 N. Ya. Merpert brilliantly defended his Ph.D. thesis "Upper Saltovo" (the Saltov culture). In the same year he was appointed to the Kuibyshev expedition of the Institute under the direction of A. P. Smirnov. Excavating on the banks of the Volga in the area to be submerged under the Kuibyshev reservoir he examined hundreds of kurgan graves and a number of Bronze Age settlements mostly belonging to the Timber-grave (Srubna) culture. From then on research on the Neolithic and Bronze Age cultures of the Eurasian steppe zone became one of the main directions of N. Ya. Merpert's work. Thus he managed to analyze and summarize an enormous amount of materials on the Pit Grave (Yamna) culture that had been accumulated by Russian archaeologists by the middle of the 20th century and he identified local variants within this culture. Furthermore, he pronounced himself on the genesis, periodization, economy, and social relations of population groups associated with this archaeological culture. In 1959 he met Marija Gimbutas at an international symposium where both scholars gave talks on the controversial aspects of the Pit Grave culture. Henceforth for more than 30 years, until Marija Gimbutas' death in 1994, they remained true friends and partners in the research of Indo-European problems.

In 1968 N. Ya. Merpert successfully defended his

habilitation thesis “The prehistory of the population of the Eastern European steppe zone (3rd - early 2nd millennium BC)”. The thesis was eventually published as a Russian language monograph “The oldest pastoralists between the Volga and the Urals” (1974), which was widely acclaimed and has still not lost its significance. In 1981 N. Ya. Merpert prepared a section on the cultural and historical processes in the south of the USSR and Eurasian steppes for the volume on the “Chalcolithic USSR”.

Constantly expanding his range of academic interests, in late 50s/early 60s N. Ya. Merpert turned to the archaeological cultures of the North Caucasus, Balkans and the Middle East. In 1961-63 he took part in the first Soviet archaeological expedition to Egypt examining the sites of 3rd-2nd millennium BC to be submerged in connection with the construction of the Aswan dam. The materials of his research were published in the volume “Ancient Nubia” in 1964.

In 1963 N. Ya. Merpert was appointed the head of a joint Soviet-Bulgarian expedition investigating archaeological sites of Chalcolithic and Early Bronze Age Bulgaria, and continued to guide the expedition for the next 30 years. The results of this research were published in international sources. Merpert’s work in Bulgaria led to the formation of his concept of a circumponctic homeland for the Indo-Europeans, In 1976 he published the Russian language monograph “Ethno-cultural changes in the Balkans on the verge of the Chalcolithic and Early Bronze Age: Ethnogenesis of the peoples of the Balkans and the Northern Black Sea”. For his contributions to the archaeology of Bulgaria N. Ya. Merpert was awarded with the First Degree Order of St. Cyril and Methodius and the Grand Medal of St. Kliment of Ohrid.

In the later part of his career N. Ya. Merpert combined field work in Bulgaria and the Northern Caucasus with excavations in Iraq (1967-85) and Syria (1989-2002). The work of the Russian expedition to Mesopotamia focused on the Sinjar Valley, situated close to the border with Turkey in the Northern Euphrates region. The expedition investigated the main phases of cultural and historical development of Northern Mesopotamia, including the emergence of agriculture, cattle breeding,

and complex societies. The results of Merpert's work in Mesopotamia were published in an English language monograph: Merpert N.Y., Munchaev R.M., Bader N. O. *Early Stages in the Evolution of Mesopotamian Civilization: Soviet Excavations in Northern Iraq* / N.Joffee and J. J. Clark (eds) University of Arizona Press. Tuscon, 1993, and in a Russian language monograph: Munchaev R. M., Merpert N. Ya., Amirov Sh. N. *Tell Hazna I. Religious and Administrative Center IV-III millennium BC in North East Syria*, Moscow., 2004. For his outstanding contribution to the studies of ancient Mesopotamia N. Ya. Merpert, along with N. O. Bader and R. M. Munchaev, received the State Award of the Russian Federation in the field of science in 1994.

N. Ya. Merpert played a key role in training several generations of Russian archaeologists. He was the author of more than 400 scholarly publications and 12 monographs. He was a board member of several academic periodicals, including "Soviet Archaeology", "Russian Archaeology", "Journal of Ancient History", and "Antiquity".

In 2012 the Russian and international archaeological community were preparing to celebrate the 90th birthday of a Patriarch of Russian Archaeology. Unfortunately, he did not live to see his jubilee. We have been left with an exceptional scholarly legacy of a beloved teacher, warmth in our hearts from communicating with him, and his remarkable Russian language memoirs "From the Past so far and so close: Memoirs of an Archaeologist" (Moscow, 2011).

Below is a list of N. Ya. Merpert's major publications on Indo-European matters in English:

Comments on: The Chronology of the Early Kurgan Tradition. *The Journal of Indo-European Studies*, 1977, Vol. 5, 373-378.

Ethnocultural change in the Balkans on the border between the Eneolithic and the early Bronze Age. *Proto-Indo-European: The Archaeology of a linguistic Problem. Studies in honor of Marija Gimbutas*. Washington, D.C.: Institute for the Study of Man, 1987, 122-135.

The European Part of the former USSR during the Neolithic and Chalcolithic. In De Laet, S. J. (ed) *History of Humanity. Vol. I. Prehistory and the Beginning of Civilization*, 1994, 557-569.

Bulgaro-Russian investigations in the Balkans. *Ancient Civilizations from Scythia to Siberia*. Vol. III. Leiden: E.J. Brill, 1995.

Eastern Europe (Fourth millennium to seven century B.C.). In Dani, A. H., J.-P. Mohen, J. L. Lorenzo, V. M. Masson, T. Obenga (eds) *History of Humanity. Vol. II. Scientific and Cultural Development: From the Third Millennium to the Seventh Century B.C.* xxx, 157-163.

On the Earliest Europeanization of the North Balkan area in light of a new investigation in the Upper Thracian Valley. In Marler, J. (ed) *From the Realm of the Ancestors: An Anthology in Honor of Marija Gimbutas*. Manchester, Conn.: Knowledge, Ideas and Trends, 1997, 70-77.

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JIES Reviews

Archaeology

Leonid Sverchkov, *Tokhary, Drevnie Indoevropeytsy v Tsentral'noy Azii* (Tokharians, Ancient Indo-Europeans in Central Asia) Tashkent, SMI-ASIA, 2012. ISBN 978-9943-17-048-3 (paperback). Pp 239.

This book, probably the most extensive attempt yet to tackle the origins of the Tokharians, is divided into three parts. The first, the “Tokharian languages and the Tokharian problem” provides a useful summary of the history of the discovery of the Tokharian languages and the debate concerning their temporal and geographical position within the spread of the Indo-European languages. These range from those who seek to anchor it in the vicinity of the Northwest group, or Greek or see it as a result of an early separation (after Anatolian) isolated on the eastern periphery. The author then briefly examines the range of archaeological solutions to Tokharian origins that range from north-eastern Europe (Corded Ware, Globular Amphora, Fatjanovo) across the steppe and forest steppe (Abashevo) to Siberia (Afanasevo, Okunevo, Sejma-Turbino horizon). The general thrust has been some acceptance for a Siberian solution although arguments that associate the Afanasevo culture of the Yenisei and Altay with those of the Tarim Basin itself are hardly supported by robust archaeological evidence. Sverchkov then provides a summary survey of the archaeology of Xinjiang. It begins with evidence for human settlement (or at least tool kits—stone tools and later pottery) that might be notionally set to range from *c* 9000 BCE (stone tool kits) to the millennium before 2000 BCE (the appearance of some pottery). Analogies for this material can be sought both in Central Asia (Afghanistan) and Mongolia. After this begins the Bronze Age which is associated with abundant evidence for burials. Employing Jianjun Mei’s geographical division of Xinjiang’s

“archaeological cultures”, the author provides a summary of the various regional groups. The overall picture, following the work of Corinne Debaine-Francfort, sees three regional divisions: the northwest region with evidence of Andronovo material which has been associated with the Saka presence in Xinjiang; the area south, west and northwest of the Taklamakan desert with grey wares (Aketala) which, it has been argued, may be connected with Ferghana; and the painted ware groups that occupied the area between Kucha and Hami, the area that yields our evidence of the Tokharian languages. Sverchkov notes that attempts to associate the Tarim Basin with the Afanasievo culture of the steppe region rest almost exclusively on arguments from physical type (Proto-Europoids found at Gumogou/Qäwrighul) which might also be paralleled with the bearers of the Keltiminar culture of Central Asia. This turns his focus from the steppe to Central Asian cultures which also have a strong claim to be the source of some of the “western” influences found in Xinjiang.

The second section of the book investigates Central Asia as a cultural historical region. It briefly summarizes the major Palaeolithic influences, then provides more detail about the Mesolithic cultures of the region before settling down to a much more thorough description of the Neolithic cultures, among which much time is devoted to the Keltiminar culture that occupied a broad area of Central Asia and which many earlier authors saw as critical in explaining the origins of many of the neighboring cultures, among which would be included the Afanasievo culture of the Altay and Minusinsk Basin. The author continues laying out the cultural-historical development of Central Asia up to the early Middle Ages.

The third part is titled “Tokharians and the Indo-European problem” and the archaeological evidence seen earlier is then recast to provide arguments for a Central Asian homeland for the Indo-Europeans. One of the perennial problems with searching out the origins of any particular Indo-European group is that all too often proponents of a particular theory provide an isolated ‘solution’ divorced from the fact that it is only part of a larger puzzle and its pieces must make joins with the rest

of the Indo-European world. I have termed this the 'total distribution principle' and it is one of the tests of how serious we should deal with any partial solution to Indo-European expansions. In attempting to meet this principle, one can hardly criticize the author as his final section is essentially a very detailed proposal for a 'new' Indo-European homeland in Central Asia. Geographically situated not far from the earlier proposals of Gamkrelidze and Ivanov, it does provide some legs to their general positioning of the Indo-European homeland but in a novel fashion. Sverchkov's solution also embraces a series of earlier suggestions or models but is truly his own in terms of its implementation.

Sverchkov's solution is fundamentally a rejection of those who would normally dismiss Central Asia as merely a transition zone across which migrating populations passed through. During the transition between the Mesolithic and Neolithic we find a vast Keltiminar culture occupying the entire region from the Urals and Caspian east to the Altay, and north of the Kopetdagh and northern Afghanistan. This region matches at least in areal extent the type of homelands anchored in Europe such as those who have sought the *Urheimat* in the area of the *Linearbandkeramik*. To these Sverchkov also includes the southern agricultural regions of Jarmo and later Jeitun which would appear to lie outside the area normally ascribed to other non-Indo-European languages (Semitic, Elamite, Dravidian, Altaic, Uralic). This entire region then functions as a broad Indo-European homeland. He suggests that the westward movement of the Halaf culture accounts for the separation of the Anatolian branch. The Proto-Tocharians begin within the Jeitun region and moved eastwards to arrive in Ferghana by the Bronze Age. The archaeological discussion emphasizes the presence of painted wares in both the Tarim Basin, especially in the region where we find Tocharian B, and Ferghana, and these persistent contacts are seen as indicating the spread of the Tokharian languages. This pattern of Central Asian contacts is seen even in the earliest cemeteries of the region (Xiaohe, Gumagou) which, although lacking ceramics altogether, possessed abundant evidence for bag-shaped baskets which have been compared to the shape

and decorations of Kelteminar vessels. It might be noted that precisely the same pot-to-basket argument has been employed by those who support a connection between the Tarim Basin and the steppelands.

The other Indo-European languages are accounted for by very early (Neolithic) movements from Central Asia into the Pontic-Caspian region. The Ayderbol culture of Kazakhstan, for example, is proposed as underlying the formation of the Dnieper-Donets culture of the Ukraine and as seen as the initial wave (roughly in the sense of Marija Gimbutas) of the Italo-Celtic-Illyrians. The Neolithic and Eneolithic developments of the Volga-Ural region are under the Kelteminar aegis and yield the later Germanic-Balto-Slavic branches. Out of the steppe cultures (Sredny Stog and Khvalynsk) and the neighboring Maykop culture he derives the Yamnaya which in the guise of the Andronovo culture sets off the Aryanization of southern Central Asia. Throughout this archaeological discussion the author relates his theories to a variety of linguistic proposals, e.g., Henning's famous argument tying the names of cultures on the frontiers of Mesopotamia with those of the Tarim Basin.

A major plus of this book is its wide-ranging and relatively up to date bibliography that the author has clearly engaged with. On the other hand, the book also lacks any illustrations or maps so it is exceedingly difficult for any reader to evaluate the many claims to cultural similarity, movements, etc. unless they are already fully conversant with all the literature. For a theory painted on such a large canvas it is impossible to deal it justice but I have always found the following litmus test a useful means of evaluating any homeland theory. The same names for domestic animals are found across the entire Indo-European world and, in the context of Sverchkov's proposal, we need to be able to explain why we should have the same ancestral forms at Jeitun (*c* 6000 BC from where we trace the Tokharians) as in the Dnieper-Donets culture of the Ukraine (from where we would trace the ancestors of the Celts). This would certainly seem to imply that the earliest domestic animals (all but the horse) were domesticated in the Caspian region (a theory that has

occasionally emerged in earlier Russian archaeological literature) and then passed northwards across the steppe region. I think today this theory would be a very hard sell as there are far more proximate sources for domestic animals in the European steppe to be found both in the Balkans and the Caucasus. Moreover, the other cultural connections between the steppe cultures and the area of south Central Asia are simply not very prominent nor persistent. Time depth is also a critical element of any evaluation and the fact that Tokharian inherits some of the Indo-European terminology for vehicles suggests that we cannot seriously imagine expansions prior to 4000 BCE if not much more recent. This puts a temporal restriction on any attempt to relate the cultures of the European steppe/forest-steppe with those of Central Asia.

Returning to Tokharian origins, Sverchkov does provide an interesting alternative to the steppe theory that suggests that the Tokharians can be traced northwards to the Altay and Yenisei (Afanasiovo culture). There is certainly a case for contacts between the Tarim Basin and Ferghana and neighboring areas that can be seen in material culture that must be addressed in any attempt to resolve the problem of Tokharian origins.

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Culture

Karen Bek-Pedersen. *The Norns in Old Norse Mythology*. Edinburgh: Dunedin Academic Press. 2011. ISBN 978-1-906716-18-9. 224 pp.

Studies on Norse and Germanic religion and mythology have experienced a growth spurt in the last three decades, flourishing now as never since WWII, and Karen Bek-Pedersen's book on the Nordic fate goddesses, the norns, keeps pace with this movement. Her expressed goals are modest: "The research presented here is not intended to constitute the final academic word on the *nornir* — rather, the feeling is that it makes a start in terms of treating the *nornir* as the focal point of extensive research. The

intention is to look at the concepts and ideas that lie behind the extant source material in order to bring about a better understanding of these figures than has hitherto been current. Hopefully, the findings presented below can serve as a base for future research on the *normir*" (p. 10). Bek-Pedersen's methods are mainly philological, beginning with a survey of the uses of the word in older texts, leading into surveys of other collective supernatural females and eventually to conceptually centered chapters. She fully executes the quoted statement of purpose, except perhaps for the comparative idea in "a better understanding ... than has ... been current." Although she cites a great deal of secondary work, we are never given a formal *Forschungsbericht* that would establish the difference between her total picture and that of other scholars; still, I am confident that in its comprehensiveness this study is "better" and the best future starting point.

The volume's trajectory is from plain descriptive facts (Chap. 1 "Sources") through careful philological parsing of passages (Chap. 2 "What is a Norn?"), on to more and more interesting chapters of ever broader and more compelling interpretation (3-5), still rooted responsibly, however, in specific texts. Readers of *JIES* may welcome the basic evaluation of sources. As a whole, however, the book has relatively little of the comparative thrust a *JIES* reader might look for, and Bek-Pedersen puts little trust in linguistically or etymologically centered mythological arguments (compare, for example, p. 77 from Gerd Weber). The second chapter, the book's longest, is the one most closely tied to the professional Nordic philological readership; here the author examines in detail at least nine skaldic passages (treated first as, presumably, the most authoritative), roughly seventeen eddic passages, and a few runic and saga passages. The main relevant concepts – for example, the norms' association with fate, death, and birth – are drawn empirically from the explications and linked to further female supernaturals and to further concepts, for example, *urðr*, *sköþ*, *dísir*, *valkyrjur*, *fylgjur*, and the major goddesses such as the Vanadís Freyja and the *matres* of the Rhineland. The goal of the chapter is to characterize norms in contrast to similar female

supernaturals and to map out the shared territories, and the results are tracked in neat summaries (pp. 22, 40, 48, 64-66). Bek-Pedersen's interpretations leave little to disagree with: The sayings on p. 24 should be noted as proverbs. The "dogs of the norns" (p. 25, *Hamðismál* 29) rightly follows Dronke; but *grey* sometimes designates explicitly female dogs, and "bitches" would seem to be appropriate here. In the treatment of *Atlakviða* 16 "létir ... / Húna scialdmeyiar / hervi kanna," Dronke should have been followed more closely: Bek-Pedersen's n. 31 (p. 68) glosses *hervi* as a verb "to harrow," but it must be a noun "the harrow," so (with Dronke) "to learn to know the harrow." In *Fáfnismál* 44 (p. 35) the comma after *bregða* should be deleted. In translating and discussing the mythically loaded passage *Haraldskvæði* 1-3 (p. 49-51, nn. 60-61), in which a valkyrie converses with a raven, Bek-Pedersen passes over a deeper link between the light and dark "choosers of the slain," as, for example, in the Irish war-goddesses; and in treating Old English *wælcyrge* (n. 73) she omits *wonn wælceasega* "dark chooser of the slain" for the raven in *Exodus* 164.

Chap. 3 "The Women in the Well" investigates issues raised by the three named norns in *Völuspá* 19-20 and in Snorri's derived prose (*Gylfaginning* 15-16), sources that present a picture that varies from the one arrived at in Chap. 2. The main topics are the unique naming of the norns and the meaning of their names; their explicit number; the relationship between fate (the functional arena of the norns) and time (a frequent explication of their names). The discussion of triads comes out satisfactorily without citation of Dumézil or Olrik. I found especially interesting the second and third segments of the chapter, which investigate the spatial origins of norns and similar figures, their homes in "dark and humid places," beginning with the well of Urðr. The translation by Alexander of *Beowulf* 1493a is inadequate and the integration of the Old English Christian epic into the argument (pp. 96-97, 103), a bit strained. (The *Beowulf* references p. 143 are not up-to-date.) But the investigation of real female residences ("dyngja") moves interestingly into the mythic resonances of human life.

Chap. 4 “Fate and Threads” studies skeptically the connection, persistent in scholarship but not so strong in the sources, between spinning or weaving as women’s work and the idea of destiny; the textual evidence – *Völundarkviða* 1; *Helgakviða Hundingsbana I*, 1-4; *Darraðarljóð* 1-11 (plus accompanying prose); the *First Merseberg Charm*; and *Guðrúnarkviða II*, 14-16 – comes in for extensive interrogation. Bek-Pedersen appears to be authoritative in matters of real-life cloth making, and I admire her assault on the Helgi passage; but I am left with incomplete understanding and a hangover from Wagner’s famous exploitation of it. Bek-Pedersen’s synthesis of conceptual and philological discussion is at its strongest in Chap. 5 “Fate, Honour and Speech,” the book’s final substantial chapter. Terminological connections to “law” are pervasive, and much of the vocabulary of fate is intricately interwoven with that of “honor.” The wide-ranging discussion leads back to the spoken word, but more could have been made at this point of the best etymologies of *norm* in connection with speech (pp. 155, 191). In the epilogue “Conclusions,” the author rises to the challenge of a synthesizing summary encompassing the major findings of the whole study (pp. 199-203). The volume closes with a generous and up-to-date bibliography.

A few quotidian matters make the use of the book less easy than it might be (brevity of the index; placement of notes at the end of chapters; typos and other minor textual problems), but this is a book any Old Norse scholar will want to consult for the topics and texts it covers. Its philological approach is reliable and consistent; as *mythology* it is most interesting when most adventurous. Bek-Pedersen comments at one point that her next “idea ... is in some ways speculative ... [in a] slightly more conjectural mode” (pp. 105-06); this is just where the book’s interest begins to take off. Under the influence of Gerd Weber’s anti-nativist book (‘Wyrð.’ *Studien zum Schicksalsbegriff der altenglischen und altnordischen Literatur*, 1969), the author is sometimes, in my opinion, overly cautious. From this point of view, Bek-Pedersen is nicely complemented by two other recent studies in related areas. Anthony Winterbourne’s *When the Norms Have Spoken: Time and Fate in*

Germanic Paganism (2004) is a boldly philosophical study of Norse space, time, fate, and cosmology unhindered by too much philology or too much skepticism; Bek-Pedersen cites several of Winterbourne's ideas. And Matthias Egeler's *Walküren, Bodbs, Sirenen. Gedanken zur religionsgeschichtlichen Anbindung Nordwesteuropas an den mediterranen Raum* (2011) provides in spades comparative dimensions for the valkyries; Bek-Pedersen cites an article of Egeler's anticipatory to his big book.

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Linguistics

Jonathan Roper (ed.), *Alliteration in Culture*. London: Palgrave Macmillan, 2011. XIII + 253 pages, 6 illustrations, 9 tables. ISBN 978-0-230-23264-8.

Jonathan Roper's research group sets out to explore alliteration in a cross-linguistic and inter-cultural perspective as one of the most widely shared features of human language. The reader meets an impressive assembly of scholars from different cultures, language groups and academic traditions focusing on alliteration more broadly and establishing a new interdisciplinary research field. Hence, the aim of the book is no less than opening up the field of alliterative studies for further inquiries and the diversification of special fields, compare Ragnar Ingi Aðalsteinsson's diachronic account of alliteration in Icelandic (Aðalsteinsson 2010). Initially, Roper mentions the neglect of scholarly attention as documented symptomatically by Hoops' *Reallexikon der Germanischen Altertumskunde* (first ed.) where we find little more than ten pages dedicated to 'Stabreim' (Hoops 1911-1919 IV: 231-240). Although the revised version of this comprehensive dictionary has been extended to 37 volumes (including two large register volumes), Roper notes that the entry on alliteration receives less coverage than in the first edition (Beck et al. 1973-2008 XXIX: 435-440). To be honest, however, it should be added that

alliteration and *Stabreim* turn up frequently in the *Reallexikon* in the discussion of poems, epics and runic inscriptions, e.g. the Gallehus gold horn.

Roper poses the following basic research questions to be addressed by his fourteen contributors: (1) What effects does alliteration have? (2) What is its history? (3) What are the terms we might best use to describe it?¹ (4) And when might people wish to avoid it? The marked research focus on alliteration is clearly a new one, not least because alliteration has traditionally been associated with metrical and literary studies, in particular *ars poetica*. Epigraphy can be added as a research field that has a genuine interest in alliteration as well, e.g. Owen 1928. The present volume, however, makes it clear that this feature occurs in a variety of genres, micro-genres and oral performances – from poetry, proverbs, idioms, limericks, riddles, tongue-twisters, charms, spells and curses, nursery rhymes via legal texts, inaugural speeches to modern pop lyrics, advertisements, commercial slogans, tabloid headlines, and even place names. Following Turville-Petre's *Alliterative Revival* of 1977, it seems daring indeed to account for a deeply rooted cognitive process of language production and perception that covers different (if not all) historical stages of language.

Although the primary focus of the book rests on Germanic data (i.e. American and British English, Dutch, Old Frisian, Modern Swedish, Old Norse and Icelandic), non-European languages such as Mongolian, Hungarian (Uralic language), Finnic and even Somali are included in the discussion. Roper (2) emphasizes that the classical focus on metre and metrics is inapt to capture alliteration in its various forms and manifestations. An idea that turns up repeatedly is the notion of genre-specific strategies in the use of alliteration, compare for instance legal texts and maxims as opposed to poetry and epic works (see below, cf. also Gurevič 1986, Schulte 2011). Roper, in his

¹Among the technical terms that feature in this book are cluster alliteration, cross-alliteration, epenthetic alliteration, perfect vs. imperfect alliteration, morphological alliteration, ornamental alliteration, over-alliteration, secondary alliteration, and strong vs. weak alliteration. See the index, pp. 247-253.

introduction of key topics, claims that alliteration takes on different functions in different genres, and the evidence adduced by the contributors partly supports this claim (see below).

An insight that immediately emerges from this volume is that cross-linguistic universals are rare, if there are any, rather that in different cultures and speech communities we are faced with language-specific sets of parameters governing the rules of alliteration and related phenomena. Moreover, even rhetorical and stylistic devices seem to vary according to cultural habits, conventions and taste: compare the Indian *kāvya* literature that abounds in what Indian grammarians label *anuprāsa* and *yamaka*, viz. the repetition of equal or similar letters, sequences and words in one and the same stanza (for detail, see Lienhard 1984:105-106).

Rather than treating the single contributions in Roper's volume one by one, the present reviewer highlights central issues that emanate from this recent study.

Tongue-twisters and inaugural speeches

What inaugural speeches and tongue-twisters have in common is their exclusive reliance on the spoken word. Compare the crucial notion of *brageyra* 'poetic ear' in Icelandic metrics which Ragnar Ingi Aðalsteinsson (2010:59-60) defines in the following way:

Brageyrað er tilfinning fyrir stuðlun og hrynjandi og það verður til við lestur kvæða og vísna og við önnur kynni af hefðbundnum kveðskap. [“Brageyrað’ is the feeling for alliteration and rhythm, and it is based on reading aloud the poems and stanzas as well as on other knowledge of traditional poetry.”]

To put it differently, the oral performance is crucial for its impact on the audience, hence 'eye alliteration' based on the written medium is not the issue.² Cowdell, in his contribution "Purposely to Please the Palates of Pretty

²Roper (8), in his introduction to key topics, clarifies that "the term 'eye alliteration' [is used; M.S.] to refer to a phenomenon denoting a visual and non-audible recurrence". Cf. note 8 below.

Prattling Playfellows”, illustrates this point with recourse to tongue-twisters (62-73). As he notes, this is a neglected field with few published text corpuses and analytical studies – a notable exception, however, is Jorgensen 1981, who conducted a comprehensive analysis of difficulties in performing tongue-twisters. Cowdell highlights the micro-genre of tongue-twisters in language learning, elocution training and dramatic performance in theatrical occupational custom. He also mentions other functions like the ‘idea of the shibboleth’ (63), which according to the account in Judges 12.5-6 was used by the inhabitants of Gilead to single out their defeated Ephraimite opponents, who had no initial /ʃ/ in their language and hence substituted it with /s/.

Cowdell’s research provides evidence of drama teachers at all levels using tongue-twisters such as “**Swan swam over the sea, swim swan swim! Swan swam back again, well swum swan!**” From the actors’ and performers’ point of view, Cowdell resumes,

the tongue-twister offers an irresistible opportunity to demonstrate performance skill whilst at the same time providing a tool to train those very skills. (62)

An element of humour and contest — if not laughter — amongst the performers and the audience adds to the appeal of tongue-twisters. As regards articulation, vocalic tongue-twisters with lax and tense vowel pairs, for instance, pose severe problems to the speech apparatus in executing two similar (albeit different) tongue-heights in a brief period of time. Cowdell (67), again referring to Jorgensen 1981, describes folk metaphors for the “breakdown of the speech apparatus” from the perspective of the genre as a whole: “tongue *tanglers*, *trippers*, or *twisters*, as well as *cramp words*”, or even “jaw busters”. He emphasizes that this is essentially an oral or performed genre which — like inaugural speeches — does not lend itself to ‘eye alliteration’ (64). This observation underpins the performative qualities of tongue-twisters, and he adds Dundes 1964, who identifies a ‘common structural feature’ supporting verbatim recall or oral performance in general, viz. a two-part structure with the second segment inverting

or modifying the first one. Cowdell (65) cites the following example from Halliwell 1846 which complies with Dundes' criterion. Note the inversion of word order in B and D in relation to A and C:

A **P**eter **P**iper **p**icked || a **p**eck of **p**ickled **p**epper,
 B A **p**eck of **p**ickled **p**epper || **P**eter **P**iper **p**icked;
 C If **P**eter **P**iper **p**icked || a **p**eck of **p**ickled **p**epper,
 D Where's the **p**eck of **p**ickled **p**epper || **P**eter **P**iper
 picked?

Cowdell (67) refers to Mook 1959 in noting an array of different types of tongue-twisters, indicative of different audience registers. It seems to me that the stress on different audience registers lends itself to new sociolinguistic studies focusing on the issue of style along with the listeners' expectation and attitude. To sum up, a tongue-twister is a professional tool for actors that trigger showstoppers and, as Cowdell (72) would have it, "offers the opportunity to barnstorm".

A genre that fulfills related performative functions is the inaugural address — a sub-genre of political speeches. Halmari thus sets out to investigate "Alliteration in Inaugural Addresses: From George Washington to Barack Obama" (45-61). She explicitly states that "phonology (not orthography) determines what alliterates. No 'eye-alliteration' is included", for example "let every **n**ation **k**now" (Kennedy, 1961), or "**j**ustice and **g**enerosity" (Roosevelt, 1905) are included on a phonological basis, whereas "in **h**elp **h**onorably given" (Eisenhower, 1957) is not (49). Further criteria involve the word-initial position of alliterative patterns (irrespective of stress) and the proximity criterion, which says that only three words can intervene, e.g. "**p**eril of our government by the **p**eople" is excluded due to the distance between the two words with initial *p*. Halmari rejects the alliteration of grammatical words, particularly prepositions, conjunctions and articles, as opposed to content words such as 'nation' and 'justice' (50). Note that word class sensitivity is a salient feature of alliteration that recurs in a variety of genres and speech communities, among other things in the discussion of

proverbs and poetry.³ In skaldic verse, for instance, Gade (1986) summarizes the alleged word class hierarchy (based on Rieger 1876) as follows (Since I miss a clear exemplification in Árnason's and Aðalsteinsson's contributions in this volume, I quote Gade 1986:75-76):

1. Nomina (nouns, adjectives and the verbal participles I and II) are more heavily stressed than other word classes.
2. The finite verb is less strongly stressed than a nomen. The verb of the main clause has less stress than that of a subordinate clause.
3. Adverbs belonging to adjectives and other adverbs are more strongly stressed than the same words if they act as qualifiers. They have no stress if they function as intensifiers.
4. Pronouns and pronominal adjectives are often enclitics but nevertheless receive strong rhetorical stress.
5. Prepositions and conjunctions lack stress.

Halmari's succinct corpus study covers all the inaugural addresses of US presidents to date (56 speeches altogether), comprising over 3,000 instances of alliteration per 130,000 words altogether; for detail see Halmari's appendix: "Alliterations for the entire corpus" (60-61). One of Halmari's results is that a fine political orator and skilful performer uses alliteration with modesty (e.g. 46, 58). In this light, Thomas Jefferson, Franklin Roosevelt, Ronald Reagan and Barack Obama belong to the group of 'average alliterators', while Bill Clinton and Bush Jr. are 'heavy alliterators'. The author hypothesizes that "populist presidents seem to resort to alliteration more readily than non-populist presidents, who tend to be more moderate alliterators" (46). To some extent, this hypothesis is borne out by Halmari's analysis. Incidentally, George W. Bush's alliteration count in his first inaugural speech was higher than any other American president's. Without delving into Halmari's statistical details, it seems clear that certain political speeches are charged with a high percentage of alliteration in order to be persuasive and emotive (cf.

³Compare the book's index under "alliteration and word class."

Halmari 2005). A case in point is Franklin D. Roosevelt's third inaugural address (with an alliteration score of no less than 28.0 per 1000 words). This speech was delivered in 1941 when Roosevelt was preparing the nation for entry into World War II. By way of conclusion, inaugural addresses, not unlike tongue-twisters, represent a performance-based micro-genre that is narrowly defined by conventions and audience expectations. More importantly, Halmari (58) confirms that "alliteration has been and continues to be a persuasive, audience-engaging rhetorical device in political communication." As things stand, the emphatic and persuasive force of alliteration seems to constitute one of its performative qualities.

Proverbs and idioms

Almost three and a half centuries ago John Ray compiled a list of alliterative proverbs in English which he labeled "Proverbial Similies, in which the quality and the subject begin with the same letter" (Ray 1670:201-203). In this volume, Carson Williams, who has undertaken extensive work on proverbs and wellerisms, deplors alliteration in modern anglophone idioms and proverbs: "Alliteration in English-Language Versions of Current Widespread European Idioms and Proverbs" (34-44). Based on Paczolay 1997 and EUROPHRAS, the database of the European Society of Phraseology,⁴ Carson Williams conducts a quantitative search of the most widespread European proverbs and idioms, found in the media and in advertisements. One of the general differences between proverbs and idioms which the author notes is "that many of the proverbs rhyme whereas only *one* of the idioms, 'to be in seventh heaven', rhymes" (36). The structure of widespread idioms is particularly revealing because most of them end in a noun, e.g. "to wear the trousers", and all the idioms that alliterate engage a final alliterating noun, e.g. "to add fuel to the flames", where the final noun participates in the alliterative pattern. Another valid observation is that the final noun (which, as said, bears

⁴EUROPHRAS, European Society of Phraseology, Europäische Gesellschaft für Phraseologie, Société européenne de phraséologie at <http://www.europhras.unizh.ch>.

stress and alliterates) marks the end of a sentence or period and is therefore followed by a pause, as in “She’s thrown the **b**aby out with the **b**athwater” (37), hence the demarcative function of alliteration. It is worthy of notice that such rules play a prominent role in traditions outside Germanic as well. In Somali alliterative verse, as mentioned by Orwin in this volume (219-230), the placement of alliteration seems to be restricted by word-boundary rules.

It is noteworthy that two of Carson William’s idioms display alliteration in all *three* languages, viz. English, German and French (40):

to buy a **p**ig in a **p**oke
 die **K**atze im Sack **k**aufen
 acheter le **ch**at en sac

and

to **s**wim against the **s**tream
 gegen den **S**trom **s**chwimmen
 nager contre le **c**ourant.

The author notes that semantic constraints may override alliteration, hence the absence of alliteration in idioms such as “to swim against the tide” as opposed to “swim against the **s**tream” (40). The author ponders whether “the choice of variants is determined by the significance of the sea in some places, which may take precedence over alliteration.” Similar considerations apply to proverbs. The author further identifies the usual structure VERB + DEFINITE ARTICLE + NOUN in all of the 100 widespread idioms, e.g. “to break the ice”, but other patterns are also in evidence, e.g. NOUN + NOUN, as in “to buy a **p**ig in a **p**oke”, or also involving the verb, i.e. VERB + NOUN + NOUN, for example “to **m**ake a **m**ountain out of a **m**olehill” (39), which also exists as a proverb: “Don’t **m**ake a **m**ountain out of a **m**olehill”. As the author notes, Paczolay (1997: 409-412) has located this expression, mainly as an idiom, in 39 different languages. On the whole, 13 per cent of the idioms alliterate, and no other stylistic feature such as rhyme or rhythm features as prominently as alliteration. As Carson Williams (41) puts it,

Alliteration is therefore the most consistent stylistic feature of these idioms, although it is much less common here than in riddles and in tongue-twisters. (41)

If we turn from idioms to proverbs, roughly 30 per cent (32 out of 106) display alliteration in their English version, e.g. “All that **g**litters is not **g**old”. The corresponding ratio for French and German is slightly higher, viz. 34 out of 106 and 43 out of 106, respectively. The fact that alliteration features twice as often in widespread anglophone proverbs as in the current idioms is explained first of all by the different length of word strings: “Proverbs usually contain more words than idioms which, no doubt, affords more opportunities for alliteration” (42). From the present reviewer’s point of view, different degrees of lexicalization and idiomatization in proverbs and idioms add to this complex picture (cf. Wray 2009). As Carson Williams further notes, in many proverbs distant words that are backed up by stress alliterate, e.g. “One ‘**s**wallow doesn’t make a ‘**s**ummer”; but compare Halmari’s proximity criterion in her analysis of inaugural addresses above. Finally, Carson Williams addresses what she labels the ‘tongue-twister effect’ in several fixed expressions revealing an oral basis (42). To conclude, alliteration is the most significant stylistic feature in the idioms and proverbs under investigation, but it is clearly subordinate to their semantic content. As already mentioned, this insightful analysis would probably have profited from research on formulaic language, not least when a lexicalization scale of proverbs and idioms is invoked.

Expressive alliteration in place names

Harte enters an unexplored research-field, the use of alliteration in English field-names coined by nineteenth-century farmworkers and peasants: “Love, Silver and the Devil: Alliteration in English Place-Names” (21-33). Rather than focusing on rare coinages and hapax words, Harte investigates a group of recurrent, rather widespread names to rule out coincidence and to prove a general principle, viz. the use of toponyms as stylistic markers. Many

derogatory names for infertile dry or wet land in the modern period belong here, e.g. *Shivery Sham at Marston*, *Dry Drayton* in Cambridgeshire (*Driedraiton*, 1218), or *Morton in (the) Marsh*.⁵ As Harte convincingly argues,

From the 1200s onwards, alliteration has been used for scurrilous or derogatory effect – first in a few distinctive settlement names, and then in a tradition of field-names that begin with *Hungry Hill* and then widens out in the modern period to encompass a much wider range of reference. (26)

These names of fields, streets, buildings and even supernatural beings which are traceable from the thirteenth century on, functioned as an emotional outlet for the frustration of farmworkers and poor laborours, compare *Raton Rowe*, ‘row of rat-infested houses’ (*Vicus de Ratunrowe* appears in 1288 at Norwich). Later this name was re-interpreted as *Rotten Row*, keeping the alliteration as well as the derogatory sense (28). Several other names are obviously charged with equal sarcasm or irony, e.g. *Howlet Hall* at Brent Pelham, which is the name for a derelict building. Harte argues his case convincingly, claiming that “the tradition of naming was performative rather than referential.” The paper indicates functional overlaps between the naming practices addressed in this study and in poetry, compare for instance the sub-genre of the eddic *senna*, lit. ‘quarrel’ with its insults and curses (cf. Thorvaldsen 2010). Moreover, in a cross-cultural perspective, it would probably be a rewarding task to explore different traditions of alliterative place-names, e.g. Modern Norwegian *Høgehaugen*, *Løvulia*, *Langeli* and *Bilbøen*.⁶

⁵Harte, in passing, notices one context where alliteration does not assume a derogatory function, viz. in pub names. The majority of the names which belong here are metonymic or metaphorical, e.g. *Blue Boar*, *Big Ben*, *Blunch of Bluebells*, and *Battle of Britain* (31, note 11 with reference).

⁶See e.g. Rygh’s comprehensive work in 18 volumes, *Norske Gaardnavne*, under *Seljeset* (*Sellesetter* from Old Norse **Seljusetr* ‘summer mountain farm made of willow wood (*Salix caprea*)’ which is documented in 1603) in Møre og Romsdal, viz. *Langeli*, *Langøyli*, *Lundli*, and *Løbergslø*. Here it may be asked whether the second element *li* ‘hillside’ attracts an alliterative first element such as *Lange*-, *Langøy*-, *Lund*-, *Løberg*-. The frequency of this alliterative pattern suggests that it can hardly be coincidental.

It may be hoped that Harte will inspire name researchers from different traditions to cope with this sort of intricate material under a similar stylistic-pragmatic research focus.

Eschewing alliteration – the inverse matrix?

In a study originally published in 1940, the German scholar Schröder mentioned that, out of 30.000 single names included in his collection, less than 300, i.e. 1 per cent, bear names with internal alliteration, and that there were no instances of internal rhyme in his material (see Schröder 1944: 17, 22). Under this focus, Hagåsen investigates the Swedish system of personal names in light of its Old Germanic background: “Restrictions on Alliteration and Rhyme in Contemporary Swedish Personal Names with an Old Germanic Retrospect” (93-108). The author identifies two factors that prevent alliteration in dithematic names: (1) the distaste for conspicuous and ridiculous names (in particular when high-status names are involved), and (2) poetic and metrical demands in Old Germanic heroic poetry. Hagåsen refers to the German name researcher Schramm, who believed that alliteration in dithematic names was eschewed due to the poetic demands of alliterative poetry, particularly the stress pattern (Schramm 1957: 16-17, 33). As Hagåsen concludes,

In the formation of dithematic names in Old Germanic, on the one hand, and in Swedish from later centuries down to the present, on the other, the rejection of rhyming elements should certainly be ascribed to people’s anxiety about forming names that might make a conspicuous and even ridiculous impression. (106)

Hagåsen finds that the reluctant use of alliteration and rhyme (including phoneme repetition in general) in Modern Swedish dithematic surnames and male and female double first names has to be interpreted in different ways than in Old Germanic. While this is certainly correct, the author could perhaps have made his point more clearly. First of all, there are Early Runic names (first name and surname, so to say) that favour alliteration, cf. particularly **hlewagastiz holtijaz** ‘Hlewagastiz stemming from Holta”

(Gallehus gold horn, ca. 400 AD), **hrozaz hrozez** ‘Hrōzaz, the descendant of Hrōzaz’ (By stone, 500-550 AD) and **hApu-wulafR hAeru-wulafiR** (Istaby stone, Blekinge, ca. 600-650 AD), i.e. three personal names with a subsequent alliterative patronym. A crucial function of alliteration that was exploited extensively in Old Germanic was to mark the lineage and the unity of warrior clans and heroes such as the *wulf*-dynasty from early seventh-century Blekinge (see Sundqvist and Hultgård 2004). This system of lycophoric names relies on a combination of alliterative first elements of warlike character coupled with the second element ‘wulf’: *hapu-* ‘battle’ in **hApu-wulafR** (Istaby stone), **hApu-wolAfR** (Stentoften stone), **hApu-wolAfA** (Gummarp), *hari-* ‘host, army’ in **hAri-wulAfR** (Istaby stone), **hAri-wolAfR** (Stentoften stone), and *heru-* ‘sword’ in **hAeru-wulafiR** (Istaby stone). Comparative evidence suggests that these dithematic names are firmly rooted in Indo-European (e.g. Schmitt 1995). These theriomorphic dithematic names in the Blekinge inscriptions, for instance, reflect a neatly contrived system of name-giving with the personal names consolidating power, status and identity (cf. Schulte forthcoming). It goes without saying that internal alliteration would render this type of name unsuitable for Old Germanic verse, as over-alliteration would interfere with the alliteration matrix. These Old Germanic dithematic names thus do not lend themselves to a direct structural comparison with Modern Swedish *Stenkvist*, *Stenhammar*, or *Pia-Maria* and *Lise-Lott* (97). On these grounds, I think it would be wise to draw a sharp line in a diachronic perspective between the Old Germanic naming customs on the one hand and the Modern Swedish ones on the other – both in terms of naming traditions and metrical-phonological constraints.⁷ Finally note that what the author (106) labels socio-onomastical motives, e.g. undesirable derogatory judgements or ironic effects, is echoed by Harte’s discussion of English field-names in this book.

⁷This moot point also applies to related studies on restricted alliteration, e.g. Hagåsen 2009.

Law and poetry

Bremmer, in his “Dealing Dooms: Alliteration in the Old Frisian Laws” (74-92) scrutinizes the scholarship on laws from Grimm onwards, acknowledging the role of Latin rhetorical training and the influence of canonical authors such as Augustine and Cicero. Bremmer takes a critical stance to the notion of versified law, and both he and the reviewer, from different points of departure, arrive at similar conclusions (cf. Schulte 2011). As both authors emphasize, there is a stylistic dimension to alliteration, whereas it is no direct index of orality and old age. Nor is the presence of alliteration to be directly interpreted as a mnemotechnical device that aided verbatim recall before the advent of literacy. Rather, the use of alliteration and alliterative formulae, in particular twin formulae, is a stylistic device pertaining to the genre as such. To argue his case, Bremmer provides three close readings of Frisian law passages in the vernacular, including an intriguing case of two parallel (however independent) translations from Latin to Frisian, viz. the Second Emsingo Manuscript (E2) and the Third Emsingo Manuscript (E3). Only one of these, namely E2, makes use of alliterative word pairs (79-84). In the version of E2 the simple Latin *absconsum* has been rendered as “thet thi bona therinne bihut and biheleth se” (“that the killer is protected and concealed therein”). Bremmer rightly points out that Old Frisian *bihut* and *biheleth*, due to their unstressed prefixes, do not alliterate on the initial /b/, but on the /h/ of the stressed verb root (for phonological discussion, see Schulte 2007). As Bremmer argues, “the E2 translator felt an urge to render the simple Latin ‘absconsum’ with an alliterative word pair to make it sound in line with the customary legal parlance” (83). Roper (16), in the introduction, makes a good point in stating that a twin formula such as *from Hamlet to Harry Potter* “does not refer to those works in particular, but to the full gamut of narratives.” At the same time alliteration is emphatic and hence underscores meaning. There are genre-specific features in the use of alliterative word-pairs, and Gurevič (1986) — a work that is unfortunately absent in this book — shows functional differences between legal texts and poetry. But Bremmer’s

article is certainly a most useful and succinct contribution to the on-going discussion.

Conclusion

Although several other issues linked to alliterative poetry and non-Indo-European data deserve a detailed discussion, the present reviewer draws the line here. In the foregoing, the focus rested on hitherto neglected sub-genres such as the tongue-twisters, proverbs and derogatory place names. Roper's following statement is clearly to the point:

It becomes hard to believe in such a thing as a comprehensive and culture-free set of rules governing alliteration that could apply universally to all languages in all periods. (12)

While alliterative practices are obviously language-specific and liable to change, it seems possible to summarize the basic features of alliteration cross-culturally: (1) It highlights the lexically significant units in correlation with stress. (2) It can take on an emphatic or expressive function revealing personal engagement or involvement both on the part of the reader/performer or listener. (3) Conversely, it can assume an ironical or derogatory function (*will-o'-the-wisp*). (4) It seems highly context-sensitive and depends on marked registers and styles. (5) Phonologically, it bonds the significant elements or names in verse or other varieties of speech (compare the Old Germanic naming-traditions). (6) Semantically, alliterative syntagms often engage metonymical or metaphorical processes (cf. idioms and proverbs). (7) Alliteration structures the speech continuum in correlation with stress and pauses.⁸

Having said all this, there can be no doubt that Roper's book marks the starting point of a new research effort exploring alliteration in its various manifestations in different speech communities and cultures. Alliteration, as

⁸Note that the reviewer deliberately excluded the moot point of 'eye-alliteration' which is said to be complementary to 'oral alliteration'. See particularly Kaneko's contribution on "Alliteration in Sign Language Poetry", pp. 231-245 in this volume.

part of language and culture, can be viewed as an integral part of speech, involving cultural, cognitive, and interactional processes, such as the social factors which govern language use, knowledge of the speech community and the world at large. Hence cognitive and usage-based models of language would further deepen our understanding of the general theoretical basis of alliteration.

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Introduction; Language Abbreviations; **Stephanie Jamison:** On Translating the Rig Veda—Three questions; **Jorma Koivulehto:** Finno-Ugric Reflexes of North-West Indo-European and Early Stages of Indo-Iranian; **Olga Petrova:** Grimm's Law in Optimality Theory; **Joshua T. Katz:** Evening Dress—The Metaphorical Background of Latin *vesper* and Greek *ἔσπερος*; **Martin E. Huld:** Reinventing the Wheel—the Technology of Transport and Indo-European Expansions; **Kristin M. Reichardt:** Curse Formulae in Hittite and Hieroglyphic Luwian; **Ilya Yakubovich:** Laryngeals from Velars in Hittite—A Triple-Headed Argument; **David Atkins:** An Alternative Principle of Succession in the Hittite Monarchy; **Christopher Wilhelm:** On the Possible Origins of the Philistines; **Sandra Olsen:** Reflections of Ritual Behavior at Botai, Kazakhstan; **John Leavitt:** The Cow of Plenty in Indo-Iranian and Celtic Myth; **Betsy McCall:** Metathesis, Deletion, Dissimilation and Consonant Ordering in Proto-Greek; **Jens Elmegård Rasmussen:** The Growth of IE Ablaut—Contrastive Accent and *V̥ddhi*; **Harold Koch:** Order and Disorder in the Reconstruction of the Ablaut Pattern of Athematic Verbs in Proto-Indo-European; **Carol F. Justus:** The Age of Indo-European Present -R Person Endings; **Alexander Nikolaev:** PIE Ergativity and the Genitive in **osyo*; **Anatoly Liberman:** Pseudolaryngeals (Glottal Stops) and the Twilight of Distinctive Voice in Germanic; **Vyacheslav V. Ivanov:** Early Slavic/Indo-Iranian Lexical Contacts; Index

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2000, Pages 377, Paperback: \$46.00

The One-eyed God: Odin and the (Indo-) Germanic Männerbünde

Monograph No. 36 — By Kris Kershaw

Abbreviations; Glossary. *THE EYE IN THE WELL*: *grandaevus altero orbus oculo*; Odin's pledge; *Heiti* relating to Odin's eyesight; *Blindr*; Other possible *heiti*; "Blind," not "the blinder"; Other depictions of Odin/Wodan; Snorri and Saxo; Wodan, Woden, et. al; Iconography; Odin the Wolf-god; An overview of the book; **PART I. HERJANN: THE EINHERIAR**: Snorri's description of the *Einheriar*; The word *einheriar*; *Herr and Herjann*; PIE **koryonos*; Thor *Einheri* and the *Einheriar*. *DER SCHIMMELREITER*: The Host and the Hunt; Legend, myth, and cult; The matter of the *Männerbund*; The Dead and the living; Age sets and ancestor cult; Masks; Masks and ancestor cult; Demon horses; The Rider-god; The Ancestors bring blessings; Feasts of the Changing Year; Harlequin. *FERALIS EXERCITUS*: *Harri*; *Chatti*; *Weihekrieger*; *Civilis*; Haraldr Hárfagr; The hairstyles of the *Suevi*; Procopius and Ammianus on youthful warriors; An analog from Doric Greece; The liminal state (*marge*); Exiting *marge*; Demon warriors; An initiation scenario in *Völsungasaga*; Demon warriors among the *Chatti*; Two armies of the dead; *Mercurius*; Hermes at the boundaries of space and time. *FUROR TEUTONICUS*: **wop*; *Ödr*; *Öðinn*; The suffix -no-; Examples; A "Führersuffix"?; The suffix -no- in divine names; Poets' god and Rune-master; Ecstasy, Possession, Inspiration, Madness; Ecstasy; *Furor heroicus*; War dances; Dancing gods; *Mysterium* and *Mimus* in the *Anabasis*; The sword-dance in Germania; Mars and the *Salii*; *Κούρητες*; *Κουρήτες*; *Κορύβαντες*; The Maruts; Some conclusions; *Veratýr*; **PART II. THE INDO-EUROPEAN MÄNNERBUND**: **TEUTA AND *KORYOS*: *Equites* and *pedites*; Village and Forest. *THE *KORYOS*: *Raubrecht*; The *Manes*; Animal transformations; *Ἐκστασις*; Times and seasons; Festivals; Seasonal activities; Sub-groups; Small bands; Groups of 50; Older **koryos-bündler*; *Weihekrieger*; Men without property; Robbers and riff-raff; *Männerbund* and *Gefolgschaft*. *CANIS AND THE *KORYOS*: Wolf and Dog; Ethnonyms and *Männerbünde*; "Wolf"-men as founders of city-states; An historical example; Mythical foundation stories a) The founding of Rome b) Caeculus and the founding of Praeneste; The *ver sacrum*; Cyrus, the founder of the Persian Empire; Wolf-folk and Dog-folk; Ethnic names a) Wolf-folk of Anatolia b) An Ossetian wolf-clan c) Other wolf-folk d) Dog-folk e) *Hundingas* and *Ylfingar*; Wolf-priests a) *Hirpi Sorani* b) Some Hittite cult functionaries; Mythical ancestors a) Miletos b) Lamissio, king of the Langobards c) The Welfs of Swabia; Wolf-men and Dog-men; The Lombards; Germanic wolf-names; Irish dog and wolf names; Greek heroes with wolf-names; Wolf- and dog-men of the Scythians; Slavic wolf-men; *Κυνοκέφαλοι* a) "Zu den litauischen Werwölfen b) Slavic dog-heads c) Survivals of the *κυνή/ λυκή*; *Ἀλκιμώτατοι κύνες*; "Ver sacrum bei den [Indo-]Germanen?"; Canine/ lupine qualities; *ODIN ANALOGS*: India; Iran; The Ossetes; The Celts; The Balts and Slavs; Greece; Italy; Mars; Faunus; Veiovis; **teutā*-god and **koryos*-god; *Un rite d'agrégation*; **PART III. THE VRĀTYAS**: *WARRIOR-BRAHMINS*: An oath-brotherhood; *Vratya* clothing and weapons; Seasonal activities; The brahmacārin; The education of a brahmin; The *vratyastoma*; *Vratyastoma* and *sattra*; *Sattra*;

Daksinā; Vrātyas and sattrins; *RUDRA*: Rudra's armies; *Ganapati*; The rudras; The Maruts; A troop; The Maruts are both like and unlike Rudra; The Maruts as **koryos*; I-Ir. **marXa*; Marut epithets; Priestly activities; War-god; The Wild Hunter; *Canis*; Dogs and the Lord of Dogs; *Dasarā*; *Le jeu du Cheval*; *Têtes coupées*; The hunter with the spear; Some conclusions; Death; Fertility; *Ekstasis*; The Feast of the Changing Year; The Dragon-Slayer; Initiation; *Natarāja*; The *Ekavrātya*; *CHOOSING A LEADER*: The *Sūlagava* sacrifice; Two stories; The vrātyas as rudras; The dice game in early India; The "dice"; How it was played; An army of dice; The dog and the dog-killer; Kali, the dog; Kali *eko'kṣaḥ* and *ekākṣa*; The One and the Dog; The ritual dice game; *senānūr mahatō ganāśya*; *Sabhā* and *irina*; *Sabhā* and solstice; *Herjann*; *Excursus*—The Vrātyastomas; *DARKNESS, DOGS, AND DEATH*: Conclusion—The Wolf-god and the Eye in the Well; Bibliographies; Primary Sources; Works Cited; Index.

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The Historical Morphology of the Baltic Verb

Monograph No. 37 — By William R. Schmalstieg

The purpose of this book is to suggest a possible scenario for the history of Baltic verbal morphology with relatively little attention to semantics and syntax. The various stages of development from a reconstructed Proto-Indo-European verbal system to the attested systems of the extant Baltic languages are proposed. Various innovative theories of the author and other contemporary specialists in Baltic historical linguistics are discussed and evaluated, in many cases making available the results of their work available in English for the first time. In addition to a large bibliography on the Baltic verb the book is supplied with an index of each word form discussed.

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2001, Pages 445, Paperback: \$56.00

Greater Anatolia and the Indo-Hittite Language Family: Papers presented at a Colloquium hosted by the University of Richmond, March 18-19, 2000

Monograph No. 38 — Edited by Robert Drews

Robert Drews: Introduction and Acknowledgments, Opening Remarks; **E.J.W. Barber**: The Clues in the Clothes—Some Independent Evidence for the Movement of Families; **Paul Zimansky**: Archaeological Inquiries into Ethno-Linguistic Diversity in Urartu; **Peter Ian Kuniholm**: Dendrochronological Perspectives on Greater Anatolia and the Indo-Hittite Language Family; Discussion Session, Saturday Morning; **Colin Renfrew**: The Anatolian Origins of Proto-Indo-European and the Autochthony of the Hittites; **Jeremy Rutter**: Critical Response to the First Four Papers; Discussion Session, Saturday Afternoon; **Margalis Finkleberg**: The Language of Linear A—Greek, Semitic, or Anatolian?; **Alexander Lehmman**: Reconstructing Indo-Hittite; **Vyacheslav V. Ivanov**: Southern Anatolian and Northern Anatolian as Separate Indo-European Dialects and Anatolian as a Late Linguistic Zone; **Bill J. Darden**: On the Question of the Anatolian Origin of Indo-Hittite; **Craig Melchert**: Critical Response to the Last Four Papers; Discussion Session—Saturday Morning;

Robert Drews: Greater Anatolia, Proto-Anatolian, Proto-Indo-Hittite, and Beyond; **Geoffrey D. Summers:** Appendix—Questions Raised by the Identification of Neolithic, Chalcolithic and Early Bronze Age Horse Bones in Anatolia. Index.

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2001, Page xiv and 305, Paperback: \$52.00

A Definitive Reconstructed Text of the Coligny Calendar

Monograph No. 39 — By Garrett S. Olmsted

The fragmentary calendar plate from Coligny (near Lyons) apparently dates to the second-century AD, although the Gaulish calendar engraved on this plate is plainly the result of a long transmission process. The 25-year-cycle calendar, the final system of this transmission process, probably originated early in the first-century BC, before Caesar's conquest. It is within this late pre-Roman period that the calendar took on its final form and notation to enter a two-century long transmission process. Since only 40% of the original Coligny calendar survives as a fragmentary mosaic, the reconstruction of the original whole depends upon recognizing repetitive patterns and filling in the missing sequences of these patterns. The most significant of these patterns is that discerned in the schemes of the TII and the N lunar/solar counting marks and their associated notation. Here the chronological cycles implied by these notational patterns are explained in detail. Also provided is a glossary of the functional and etymological significance of terms utilized in these daily notational patterns. The fragmentary calendar is brought to photographic completion utilizing the original wording and engraving found on the surviving fragments.

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2001, Pages 120, Paperback, 70 plates: \$40.00

Proceedings of the Twelfth Annual UCLA Indo-European Conference: Los Angeles, May 26-28, 2000

Monograph No. 40 — Edited by Martin E. Huld, Karlene Jones-Bley, Angela Della Volpe, Miriam Robbins Dexter

Introduction; Language Abbreviations; **PHONOLOGY AND MORPHOLOGY—SOUND AND SENSE:** The Sound-Systems of Proto-Indo-European, **George Dunkel;** Against the Assumption of an IE “**k^wetuóres* Rule”, **Jens Elmegård Rasmussen;** The Reflexes of Indo-European *#*CR*- Clusters in Hittite, **Aleksei S. Kassian and Ilya S. Yakubovich;** Proto-Indo-European Root Nouns in the Baltic Languages, **Jenny Helena Larsson;** Verb or Noun? On the Origin of the Third Person in IE, **Birgit Anette Olsen;** Indo-European **b^huH-* in Luwian and the Prehistory of Past and Perfect, **Vyacheslav V. Ivanov.** **EPIGRAPHY AND ETYMOLOGY—WORDS AND THINGS:** The Poggio Sommavilla Inscription, **Giovanna Rocca;** The Etymology of Some Germanic, Especially English Plant Names (*Henbane, Hemlock, Horehound*), **Anatoly Liberman;** ‘Elephant’ in Indo-European Languages, **Václav Blaz’ek.** **MYTHOLOGY AND POETICS—FORM AND FANCY:** The Persistence of the Indo-European Formula “Man-Slaying” from Homer through Gregory of Nazianzus, **Edwin D. Floyd;** Hermes and Agni—a fire-god in Greece?, **Paul-Louis van Berg;** Dumézil, a Paradigm, and *Iliad*, **Thomas**

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Pre-Indo-European

Monograph No. 41 — By Winfred P. Lehmann

THE BASES FOR RECONSTRUCTING PRE-IE: Advances in the Sciences and Fields Relevant for Indo-European Studies; Pre-Indo-European—an Active Language; Genetics and its Importance for Identifying the Indo-European Speakers in their Spread; Archeology and its Contribution to our Information on the Early Period of Indo-European Speakers; Indo-European as one of the Nostratic Languages; The Primary Bases for Reconstructing Pre-Indo-European. **FROM PIE TO PRE-IE:** The Common Source; The Comparative Method; The Method of Internal Reconstruction for Morphology and Syntax; The Use of Residues; Determination of Chronological Strata in Language; Typological Findings as Guides to Interpretation of Data; Characteristics of Active Languages; Inferences Based on Application of these Methods and Conclusions concerning Language Structures; Earlier Analyses of the Lexicon that Support the Assumption of Pre-Indo-European as an Active Language; Stages of Proto-Indo-European. **RESIDUES IN PIE THAT PROMPT ITS IDENTIFICATION AS A REFLEX OF AN ACTIVE LANGUAGE:** The Importance of Examining Residues as Illustrated by the Clarification of Germanic Phonology by Jacob Grimm and his Successors; Explanations of such Residues by a Historical Approach and the Assumption of Stages in Languages; Pre-Indo-European as an Agreement Language of the Active Sub-type; Doublets as Reflexes of Earlier Active Structure in the Lexicon; Reflexes of Active Languages in Nouns, Verbs, and Particles; Sentence Patterns of Active Structure as Found in the Early Dialects; Morphological Patterns Reflecting the Earlier Active Structure; Previous Recognition and Explanation of Active Language Characteristics in the Indo-European Languages; Conclusion. **LEXICAL STRUCTURE:** The Lexicon in Active Languages—Nouns, Verbs, and Particles; Nouns—Active/Animate and Stative/Inanimate, and the Introduction of Gender Classes; Sets of Nouns in Accordance with their Meaning; Words for the Family and its Arrangements; Verbs—Active and Stative; Involuntary Verbs; Centrifugal and Centripetal Uses of Verbs; Particles; The Particles Proper. **SYNTAX:** Active Language Syntax in Pre-Indo-European; Basic Word Order in the Sentence; Complex Sentences; the Use of Participles and Other Non-

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The Indo-European and Ancient Near Eastern Sources of the Armenian Epic

Monograph No. 42 — By Armen Y. Petrosyan

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Angela Della Volpe, Miriam Robbins Dexter.*

Introduction; Language Abbreviations; **MIGRATION AND LANGUAGE CONTACT: J.P. Mallory:** Indo-Europeans and the Steppelands: The Model of Language Shift; **Petri Kallio:** Prehistoric Contacts between Indo-European and Uralic; **IDEOLOGY AND MYTHOLOGY: Paul-Louis van Berg and Marc Vander Linden:** Ctesias' Assyriaka: Indo-European and Mesopotamian Royal Ideologies; **Edwin D. Floyd:** Who Killed Patroklos? Expressing the Inexpressible through an Inherited Formula; **Arwen Lee Hogan:** The Modesty of Odysseus; **Dean Miller:** Theseus and the Fourth Function; **LANGUAGE: TYPOLOGY, ETYMOLOGY AND GRAMMATOLOGY: Andrii Danylenko:** The East Slavic 'HAVE': Revising a Developmental Scenario; **Anatoly Liberman:** English *Ivy* and German *Ephew* in Their Germanic and Indo-European Context; **Paul B. Harvey, Jr. and Philip H. Baldi:** *Populus*. A Reevaluation.

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Complex Societies of Central Eurasia from the 3rd to the
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Monograph 45 — Edited by Karlene Jones-Bley D. G. Zdanovich

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1st Millennium.**

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and Palaeogeography; Beyond Central Eurasia**

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